ANNEX 1
COUNTRY PROFILES OF MAJOR MICA-PRODUCING COUNTRIES
COLOPHON

Authors:
Irene Schipper and Roberta Cowan (SOMO)
Co-review committee at Terre des Hommes:
Aysel Sabshingi and Tirza Voss
Layout: Newton21
Photography: © Oscar Timmers, February 2016

This report was made on assignment of Terre des Hommes.

PUBLISHED BY:
Stichting Onderzoek Multinationale Ondernemingen (SOMO)
Centre for Research on Multinational Corporations

Sarphatistraat 30
1018 GL Amsterdam
The Netherlands
Tel: +31 (20) 6391291
Fax: +31 (20) 6391321
E-mail: info@somo.nl
Website: www.somo.nl

COMMISSIONED BY:
Terre des Hommes Netherlands
Zoutmanstraat 42-44
2518 GS Den Haag
The Netherlands
Tel: +31 (70) 310 5000
E-mail: info@tdh.nl
Website: www.tdh.nl

The Centre for Research on Multinational Corporations (SOMO) is an independent, not-for-profit research and network organisation working on social, ecological and economic issues related to sustainable development. Since 1973, the organisation investigates multinational corporations and the consequences of their activities for people and the environment around the world.

Terre des Hommes Netherlands prevents child exploitation, removes children from exploitative situations and ensures children can develop in a safe environment. Terre des Hommes works towards a world where all children have a decent life and can grow up to be independent adults. A world in which children are no longer exploited. Terre des Hommes will continue its work until this is accomplished.

ANNEX 1
COUNTRY PROFILES OF MAJOR MICA-PRODUCING COUNTRIES
MARCH 2018
This Annex is part of the study Global mica mining and the impact on children’s rights.

The objective of this study is to map global mica production, and to identify direct or indirect links to child labour – or any other relevant children’s rights violations – within the context of mica mining around the world.

To this end, SOMO has analysed the largest mica-producing countries worldwide, and investigated possible connections with violations of children’s rights.

Twenty countries were selected for this analysis, in consultation with Terre des Hommes. The selection has a strong focus on non-western countries, since it was assumed that the possible impact of child rights violations is the highest in these countries. The inclusion of the top five western countries makes it possible to put production volumes and the characteristics of mica mining into a global context. The countries were identified in the United States Geological Survey’s annual mica mining report as the world’s top mica-producing countries, and were further analysed individually.

The individual country analyses cover the following aspects:

- What are the possible impacts on children in this context (excluding the western countries)?
- Are there reported children’s rights violations and/or reports of child labour (excluding the western countries)?
- Are there initiatives in this country to stop child labour (excluding the western countries)?
- What did the UN Committee on the Rights of the Child report on this country?

Each country profile ends with a brief analysis of the most important points revealed in the research, as well as an indication of red flags and outstanding questions. It should be noted that the available statistics on mica vary considerably per source, and that production, export and import volumes must therefore ultimately be considered as estimates. All of the available statistics have been included in the country profiles. For production volumes per country, information comes from Transparency Market Research (TMR), the United States Geological Survey (USGS), the British Geological Survey (BGS) and the national governments if available. For import and export information per country, data was used from TMR and the UN Commodity Trade Statistics Database (UN Comtrade, hereafter referred to simply as UN).

The collected information in the country profiles has served as the basis for the risk analyses in the mica-producing countries (see Chapter 9 of the report Global mica mining and the impact on children’s rights).

Sources: The export and import data is based on UN Comtrade and the production data on BGS sources. There are some deviations: The export figures for Iran and Taiwan are based on TMR sources. The production and export of Sudan stopped after 2013. BGS’s estimates for China’s mica production are based on exports and therefore more conservative than other often cited sources. India’s production is based on government data; Peru’s production is based on TMR data, Brazil’s production is based on USGS as the BGS figure for Brazil is an apparent mistake; Russia’s mica production, which is often cited, is 100,000 tonnes according to the USGS, however BGS notes a much more conservative figure as an estimate.

### Selection of the 20 Major Mica-Producing Countries

<table>
<thead>
<tr>
<th>Category</th>
<th>Country Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-western countries (15)</td>
<td>Argentina, Brazil, China, India, Iran, Madagascar, Malaysia, Pakistan, Peru, Russia, South Africa, South Korea, Sri Lanka, Sudan and Taiwan.</td>
</tr>
<tr>
<td>Western countries (5)</td>
<td>Canada, Finland, France, Spain and the United States.</td>
</tr>
</tbody>
</table>
2. ARGENTINA

DETAILS OF MICA MINING

Mica in Argentina is considered to be an industrial mineral. According to an Argentine government report, mica is in the first mining category, which means that the land where the mica is found belongs to the State and can only be mined with a legal concession.1

According to Encyclopaedia.com, mica is found in the north-western parts of Argentina, specifically in the provinces of Catamarca, Jujuy, La Rioja, Salta, Santiago del Estero and Tucuman. The Diggings website states that there are 52 mica mines in Argentina in the Catamarca, Jujuy, La Rioja, Salta, San Juan and Tucuman regions.2 According to the USGS, mica is also mined in the Centro and Nuevo Cuyo regions.3 There are reportedly mica deposits in the Payo Guaiaco Mine in the Catamarca region, but the reference is dated.4

According to both the BGS and USGS, official mica production in Argentina remained fairly steady over the four-year period between 2012 and 2015. BGS has estimated the production for 2012, 2013, 2014 and 2015.5 No production statistics from the government could be located.

Although official reports of the actual tonnage of exports and imports were not found, an Argentine government report stated that raw mica (HS 25251006) fetched around US$ 20,000 per year between 2005 and 2009 in total Argentine mica exports. Powered mica (HS 25251006) fetched less, averaging US$ 13,000 per year in annual exports over that same period.6 Raw mica imports (HS 25251006) over that same period varied considerably: from US$ 7457 in 2005, to US$ 219,574 in 2007, and then down to US$ 110,307 in 2009.7

The country exports relatively little mica given what it produces. Mica imports will either be cheaper than the mica produced locally, or be determined by the specific industries using the imported mica for production. According to the Observatory of Economic Complexity (OEC), in 2015 Argentina imported a third of its mica from Canada (33 per cent), with the remainder coming from Japan (16 per cent) the US (15 per cent) and Finland (14 per cent).8

THE KEY PLAYERS

According to mining consultants Rojas & Associates, there are at least 150 mining companies operating in Argentina, most of which are foreign-owned.9 According to the USGS, 40 per cent of the mining companies in Argentina are likely to have mica as one of its primary products.10 Given that the word ‘mica’ is in the company’s name, it could possibly mine mica.

No further information could be found concerning the specific players, including names of traders, processors or exporters.

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR

Argentina is on the CIAS World Factbook list of countries with child labour, with a reported 7 per cent of children between the ages of 5 and 13 years working. This source is however dated (2005)9 and no update could be located.

Argentina also appears on the US Department of Labour (DOL) list of goods produced by children, although mica mining is not included in the list.11 The most recent list of UNICEF child labour statistics includes Argentina as a participating country.11 According to the Argentina Independent website, child labour has historically been found in the agricultural sector, including mica mining.12

ARGENTINA MICA PRODUCTION (METRIC TONNES)

ARGENTINA | TMR | USGS | BGS | NATIONAL GOV.
--- | --- | --- | --- | ---
2016 | NA | NA | NA | NA
2015 | 5,000 | 7,500 | 7,500 | NA
2014 | 7,500 | 7,500 | 7,500 | NA
2013 | NA | 9,000 | 7,500 | NA
2012 | NA | 10,000 | 5,785 | NA

1 The data used for the Argentine profile was collected in Amsterdam April 2017.
5 There are reportedly mica deposits in the Payo Guaiaco Mine in the Catamarca region, but the reference is dated.
6 According to Encyclopaedia.com, mica is found in the north-western parts of Argentina, specifically in the provinces of Catamarca, Jujuy, La Rioja, Salta, Santiago del Estero and Tucuman.
7 According to both the BGS and USGS, official mica production in Argentina remained fairly steady over the four-year period between 2012 and 2015. BGS has estimated the production for 2012, 2013, 2014 and 2015. No production statistics from the government could be located.
8 Although official reports of the actual tonnage of exports and imports were not found, an Argentine government report stated that raw mica (HS 25251006) fetched around US$ 20,000 per year between 2005 and 2009 in total Argentine mica exports. Powered mica (HS 25251006) fetched less, averaging US$ 13,000 per year in annual exports over that same period. Raw mica imports (HS 25251006) over that same period varied considerably: from US$ 7457 in 2005, to US$ 219,574 in 2007, and then down to US$ 110,307 in 2009.
9 THE country exports relatively little mica given what it produces. Mica imports will either be cheaper than the mica produced locally, or be determined by the specific industries using the imported mica for production. According to the Observatory of Economic Complexity (OEC), in 2015 Argentina imported a third of its mica from Canada (33 per cent), with the remainder coming from Japan (16 per cent) the US (15 per cent) and Finland (14 per cent). According to the USGS, 40 per cent of the mining companies in Argentina are likely to have mica as one of its primary products. Given that the word ‘mica’ is in the company’s name, it could possibly mine mica.
10 No further information could be found concerning the specific players, including names of traders, processors or exporters.
11 REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR
Argentina is on the CIAS World Factbook list of countries with child labour, with a reported 7 per cent of children between the ages of 5 and 13 years working. This source is however dated (2005) and no update could be located.

Argentina also appears on the US Department of Labour (DOL) list of goods produced by children, although mica mining is not included in the list. The most recent list of UNICEF child labour statistics includes Argentina as a participating country. According to the Argentina Independent website, child labour has historically been found in the agricultural sector, including mica mining.

ARGENTINA MICA IMPORT/EXPORT (METRIC TONNES)

ARGENTINA | TMR | UN EXPORT | TMR IMPORT | UN IMPORT
--- | --- | --- | --- | ---
2016 | NA | NA | NA | NA
2015 | 17 | 16 | 334 | 333
2014 | 19 | 19 | 439 | 439
2013 | NA | 27 | NA | 167
2012 | NA | 78 | NA | 173

16 https://www.dol.gov/ilab/reports/child-labor/list-of-goods/
18 https://www.dol.gov/ilab/reports/child-labor/
3. BRAZIL

DETAILS OF MICA MINING

According to the USGS, Brazil’s main mining products are niobium, asbestos, vermiculite, iron ore, bauxite, tantalum, manganese, nickel and crude steel.27 The same USGS report on Brazil does not even list mica as a Brazilian mineral product. This suggests that mica is officially not a significant or high-ranking mineral for the country,28 despite the fact that Brazil is one of the highest-producing countries according to the BGS and a noted supplier of mica for some pigment-producing companies.29 According to the website, The Diggings, there are 268 mica deposits in Brazil in the Ceará (1), Espírito Santo (17), Minas Gerais (221), Pará (1), Rio de Janeiro (9) and São Paulo (19) regions.30 The US government was reportedly interested in exploiting the mica deposits in the Minas Gerais area in the 1940s for the war effort.31 A USGS report from 1939 noted that the Minas Gerais region had the most significant mica deposits in Brazil.32 A more recent Brazilian government document, from 2004, notes that mica is considered a “by-product” and rejected in many cases given its “whimsy prices.”33

In a more recent government publication, it is estimated that around 4 million tonnes of muscovite mica reserves exist in the states of Tocantins, Micas Gerais, Paraíba, Rio Grande do Norte, and Ceará.34 This same report notes the existence of approximately open-pit mines, semi-mechanised or manually mined, operated by sloping or sloping bench mining.35 Other than this government report stating that the mines are open-pit, no further information could be found as to the legality of the mines, or whether some are artisanal or illegal. Muscovite mica is reportedly found in both the Rio Doce and Jequitinhonha valleys in the state of Minas Gerais.36

It is worth noting that mica production figures in Brazil vary quite dramatically between TMR, the USGS and the BGS. This discrepancy requires further investigation.

In 2015, Brazil exported more mica than it imported. Most of the mica imported in 2015 came from the USA (24 per cent), Germany (23 per cent) followed by China (19 per cent) and Japan (12 per cent) while in that same year it exported mica mostly to Germany (52 per cent), France (22 per cent) and the USA (18 per cent). The UN Comtrade database notes that Brazil exports almost exclusively sheet mica. For example, in 2016 Brazil reported overall mica volumes of 4,241 metric tonnes, and of that amount 4,139 metric tonnes were registered in the Comtrade data as sheet mica.37

In 2016, according to UN Comtrade data, Brazil exported 18 per cent of its sheet mica to France, 16 per cent to Germany, 24 per cent to the USA, 19 per cent to China and 1 per cent to Uruguay. In 2015, 69 per cent was exported to Germany.

THE KEY PLAYERS

In a decade-old Brazilian government report on mica, the main companies active in mica production were identified asSeridó Mineração Ltda, Parelhas; Coamila; Altamira Comercio Ltda; Brasilminas Indústria e Comércio Ltda; and Von Roll Isola SA.38 According to a Brazilian government report, the company Von Roll do Brasil Ltda not only produces mica but is also one of the main buyers of the mineral, using it to manufacture mica paper for use as a thermoelectric insulator.39

26 The data for Brazil was collected from Amsterdam in April 2017.
29 https://www.somosnt/beauty-and-a-beast/
30 https://hedgepolding.com/commodities/mica/br
31 https://www.gia.edu/gia-news-research-cruzeiro-tourmaline-mine-expedition
33 http://www.mine.gov.br/documents/10684/177708/Prod%u00A9%u00A0%u00A0Comercializado%u00A9%u00A0%u00A0Comercio/4/a/97880815-0187-4673-9565-49f858db22?version=1.0
36 http://www.minerals.net/mineral/muscovite.aspx
37 https://comtrade.un.org/data
38 http://www.dnpm.gov.br/documents/10684/177708/Prod%u00A9%u00A0%u00A0Comercializado%u00A9%u00A0%u00A0Comercio/4/a/97880815-0187-4673-9565-49f858db22?version=1.0
43 https://www.dol.gov/ilab/reports/child-labor/list-of-goods/
The Gemological Institute of America has been sourcing minerals from the Cruzeiro mine in the state of Minas Gerais for generations.4 According to a 2016 Reuters Special Report called “Blood Mica,” the German drug maker Merck KGaA also reportedly sources some of the mica it uses from Brazil,42 as does pearlescent pigment producer Kuncai.43

No further information could be found pertaining to specific companies, traders, processors or exporters.

**REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR**

Brazil is on the CIA’s World Factbook list of countries with child labour, with a reported 3 per cent of children between the ages of 5 and 13 years working.44 This source is however dated (2009) and no update could be located. Despite being dated (2009), the CIA World Factbook of countries with child labour includes Brazil. Brazil is also on UNICEF’s list of countries with child labour.45

Brazil also appears on the US Department of Labour (DOL) List of Goods produced by Child Labour, although there is no mention of mica mining. The products on the DOL list produced by children are beef, bricks, cashews, cattle, ceramics, cotton, footwear, manioc/cassava, pineapples, rice, sisl and tobacco.46

In addition, a 2012 DOL briefing notes that “although evidence is limited, there are reports that children are also found mining gemstones and breaking rocks into gravel” in Brazil.47 The same DOL brief on Brazil notes that children and adolescents are also working in prostitution and sex tourism “near mining settlements in the Amazon region”.48 There are also media reports that children work in Brazil’s talc mines in the Minas Gerais region, which is also where mica is mined.49 In general, there are many reports50 of the sexual exploitation of children in Brazil.51

**UN COMMITTEE ON THE RIGHTS OF THE CHILD**

The CRC Committee is concerned that the activities of companies in the mining and construction sectors often lead to the following: resettlement of communities without compensation; the contamination of water resources and food; and environmental degradation. There is also no regulatory framework for businesses and industries to take social and environmental responsibility. The CRC Committee recommends that such frameworks are put into place, especially in the mining and construction sectors.

The CRC Committee is also concerned about the large number of children working mainly in the informal and agricultural sector, and reports multiple cases in which judges have authorised children under the age of 16 to work or engage in hazardous work. The CRC Committee recommends that action be taken to remove children from hazardous work situations, particularly in the agricultural and mining sectors. Moreover, Brazil should ensure that children under 16 are not authorised for employment in hazardous work.52

**STOP CHILD LABOUR INITIATIVES**

UNICEF53 and Humanium work to raise awareness about children’s rights in general and child labour in particular.54 The ILO also works to stop forced labour by children in Brazil.55

**ANALYSIS**

- Serious differences exist between the TMR, US and BGS data on mica production in Brazil, which warrants further investigation. Such large discrepancies could suggest the existence of illegal mining.

**MICA PRODUCTION IN BRAZIL (METRIC TONNES)**

<table>
<thead>
<tr>
<th></th>
<th>BRAZIL</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>10,000</td>
<td>12,000</td>
<td>450,000</td>
<td>11,500</td>
<td>427,341</td>
</tr>
<tr>
<td>2014</td>
<td>11,500</td>
<td>11,500</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>6,200</td>
<td>9,728</td>
<td>11,520</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>6,200</td>
<td>5,220</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

37 https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed
38 https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed
40 https://www.giua.edu.br/gia-news-research-cruzeiro-tourmaline-mine-expedition
41 http://www.trust.org/story/hard/mica/
42 http://news.trust.org/shorthand/mica/
45 http://data.unicef.org/topic/child-protection/chlid-labour/

**MICA IMPORT/EXPORT IN BRAZIL (METRIC TONNES)**

<table>
<thead>
<tr>
<th></th>
<th>BRAZIL EX/IM</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>4,241</td>
<td>NA</td>
<td>NA</td>
<td>2,138</td>
</tr>
<tr>
<td>2015</td>
<td>4,401</td>
<td>4,401</td>
<td>2,356</td>
<td>2,356</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>3,868</td>
<td>3,868</td>
<td>2,710</td>
<td>2,710</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>5,746</td>
<td>NA</td>
<td>2,497</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>5,151</td>
<td>NA</td>
<td>2,222</td>
<td></td>
</tr>
</tbody>
</table>

50 http://www.coha.org/made-in-brazil-confronting-child-labor/
4. CANADA

DETAILS OF MICA MINING

According to the website ElectricCanadian, Canada is one of the three principal mica-producing countries in the world, after India and the USA. Three hundred mines have reportedly been set up in Canada to produce mica, although there are currently only 25 in operation. Canada is known for its phlogopite or amber mica, which is most suitable to be used as an insulator. Canada’s amber mica deposits are within a 1,200 square mile area in the province of Quebec and a 900 square mile area in the province of Ontario, separated geographically by the Ottawa River. According to Canadian mica expert G.C. Hawley, however, new sources of phlogopite mica near Lamy, Quebec may soon be available.

The Canadian Government does not report mica production levels; in fact production figures are classified as “confidential” in government reports. However, according to Canadian mica expert Hawley, the only company producing mica in Canada is Suzorite Mica. Hawley estimates that Suzorite Mica has produced 25,000-30,000 metric tonnes per year over the past decade, which is slightly higher than either the USGS or BGS figures. The BGS figures are flat estimates; they assume that production continues, but there are no published data. Mica mining in Canada is done on an industrial scale. It is open-pit and legal.

THE KEY PLAYERS

Canada’s largest mica mining operators are reportedly the General Electric Company (Schenectady, NY, USA); Webster & Company (Ottawa); Blackburn Bros. (Ottawa); Wall-Ingford & Company (Ottawa); O’Brien & Fowler (Ottawa); and Kent Bros. (Kingston) according to a Canadian mining website.

According to the website ElectricCanadian, Canada is the only mica producer. Suzorite Mica Products is North America’s only producer of dry ground phlogopite flake and powders. The company continued to be the dominant exporter of mica to the United States, mainly for use in plastics.

“The Suzorite Mica production is about 25 to 30 kt/a (27,500 to 33,000 stpy). This has been fairly constant over the last decade. At one time, almost all of this was exported to the United States. But now, only about half goes to the United States. The balance of Suzorite exports go to Asia and Europe.”

Canada’s mica production, according to the Mining Association of Canada, is less than 1,000 tonnes and is therefore not registered in the country’s overall non-metallic mineral production (2008-2014).

Suzorite Mica (now a subsidiary of Imerys) is Canada’s only mica producer. Suzorite Mica Products is North America’s only producer of dry ground phlogopite flake and powders. The company continued to be the dominant exporter of mica to the United States, mainly for use in plastics.

According the Canadian Mining Association’s 2015 report, Imerys Mica Suzorite Inc., located at Lac Letondal, is the only mica mine operation in Canada.

The Canadian Government’s Ministry of Natural Resources website also notes this same “open-pit” mica mine as the only industrial mining of mica taking place in Canada.

HUMAN RIGHTS RISKS

There is no evidence of possible human rights violation risks, including environmental risks, related to mica mining in Canada.

IMPACT ON CHILDREN

N/A.

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR

N/A.

STOP CHILD LABOUR INITIATIVES

N/A.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC expresses concern about transnational corporations registered in Canada that are negatively impacting the rights of indigenous peoples outside Canada, in particular with regard to gas, oil and mining companies. Canada lacks a regulatory framework to hold these businesses accountable for human rights and environmental abuses.

MICA PRODUCTION IN CANADA (METRIC TONNES)

<table>
<thead>
<tr>
<th>CANADA</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>22,000</td>
<td>NA</td>
<td>22,000</td>
<td>CONFIDENTIAL</td>
</tr>
<tr>
<td>2015</td>
<td>22,000</td>
<td>22,000</td>
<td>22,000</td>
<td>CONFIDENTIAL</td>
</tr>
<tr>
<td>2014</td>
<td>22,000</td>
<td>22,000</td>
<td>22,000</td>
<td>CONFIDENTIAL</td>
</tr>
<tr>
<td>2013</td>
<td>16,000</td>
<td>22,000</td>
<td>NA</td>
<td>CONFIDENTIAL</td>
</tr>
<tr>
<td>2012</td>
<td>1,600</td>
<td>22,000</td>
<td>NA</td>
<td>CONFIDENTIAL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CANADA</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>21,426</td>
<td>NA</td>
<td>1,810</td>
</tr>
<tr>
<td>2015</td>
<td>20,483</td>
<td>20,483</td>
<td>1,296</td>
<td>1,296</td>
</tr>
<tr>
<td>2014</td>
<td>21,363</td>
<td>21,633</td>
<td>935</td>
<td>934</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>20,228</td>
<td>NA</td>
<td>1,130</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>21,118</td>
<td>NA</td>
<td>1,092</td>
</tr>
</tbody>
</table>

MICA IMPORT/EXPORT IN CANADA (METRIC TONNES)

93 The data was collected from Amsterdam for Canada in the months of March and April 2017.
94 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
97 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
99 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
100 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
101 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
102 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
103 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
104 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
105 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
106 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
107 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
108 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
110 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
111 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
112 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
113 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
114 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
115 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
117 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
118 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
119 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
120 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
121 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
122 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
123 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
124 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
125 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
126 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
127 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
128 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
129 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
130 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
131 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
132 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
133 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
134 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
135 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
136 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
137 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
138 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
139 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
140 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
141 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
142 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
143 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
144 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
145 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
146 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
147 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
148 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
149 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
150 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
151 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
152 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
153 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
154 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
155 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
156 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
157 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
158 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
159 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
160 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
161 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
162 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
163 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
164 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
165 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
166 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
167 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
168 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
169 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
170 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
171 http://www.electriccanadian.com/transport/mines/nonmetallic.htm
172 http://www.electriccanadian.com/transport/mines/nonmetallic.htm

5. CHINA

DETAILS OF MICA MINING
China is the world’s leading producer of coal, gold and most rare earth minerals. It is the world’s leading producer of aluminium, antimony, barite, bismuth, cement, fluorapatite, graphite, iron and steel, lead, magnesium, molybdenum, phosphate rock, salt, talc, tin, tungsten and zinc.

China is also officially the biggest producer of mica, according to the USGS. However, mica production figures for China should be viewed as cautious estimates, given that there is substantial variation between the USGS and the BGS statistics, and national statistics have not yet been ascertained. The BGS notes that mica production figures are estimates based on exports, while the USGS notes that production figures are based on an unnamed Chinese report. Also, mica is rarely featured in any Chinese mineral industry analyses, including the USGS Mineral Yearbook on China.

Mica is mined in Lingshou City, which is in the Chinese province of Hebei in the northeast of the country. There is also a big mica deposit in the central Nanling district in southern China. Shouzhou, in the northeast part of the country, also has mica deposits.

Phlogopite, a form of mica, is reportedly found at the Yaogangxian Mine in the Hunan Province. Muscovite, which is the most common form of mica, is reportedly found at Xuebaoding Mountain near Pingwu in the Sichuan Province.

The autonomous Xinjiang region in the northwest of China has the “highest” reserves of mica in the country. There may be other areas where mica is mined or where there are mica deposits. A Chinese government report from 2015 notes that a mica/quartz schist was discovered in the Longguan Terrain of the Cathaysia Massif in southern China.

According to the OEC, China sent most of the mica it exported in 2015 to Japan (48%), other Asian countries (9.8%) and South Korea (9.8%). In the same year, China received most of the mica it imported from India (75%) followed by Madagascar (12%) and then from Japan (5.8%).

According to the OEC (which sources data from Comtrade), the biggest exporters of mica in crude form, sheets and splittings (HS92:252510) are India (43 per cent) and Madagascar (16 per cent), followed by China (12 per cent). However, the USGS does not even list China as a sheet mica producer. No further information could be found to identify the scale or method of mining.

THE KEY PLAYERS
It is very difficult to ascertain the “key players” in China. Mica mining appears to take place in different parts of the large country, and there do not appear to be any official production statistics or lists of active mica mines in the country. The list of companies below includes some mines and manufacturers, as well as suppliers and exporters.

The China Lingshou City Chengsheng mica factory is one of the largest mica mines in the Hebei Province. The company Hebei Ninghe Trading Co. Ltd markets itself as having the biggest mica mine in Lingshou, also in the Hebei Province, producing around 100,000 tonnes of mica per year.

Hebei Ninghe Trading Co. Ltd is the sales company of Lubaishan (LBS), and holds the mineral right to this deposit for 20 years.

China Hebei Xinfa Mineral Industry Co. Ltd is also a supplier/exporter of mica. Shijiazhuang Huilanzhuanggian Commercial Trade Co Ltd is a supplier of mica, also based in the Hebei Province.

Huaqing Mica Co Ltd is a manufacturer and supplier of mica, based in Shijiazhuang.

Hebei Zina Mineral Co Ltd exports mica and is based in Shijiazhuang.

There are also various commercial sites set up to sell mica online; note that the distributors are often based in either Hebei or Shandong.

MICA PRODUCTION IN CHINA (METRIC TONNES)

<table>
<thead>
<tr>
<th>CHINA</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>785,000</td>
<td>780,000</td>
<td>151,000</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>780,000</td>
<td>800,000</td>
<td>159,000</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>770,000</td>
<td>161,000</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>770,000</td>
<td>149,000</td>
<td>NA</td>
</tr>
</tbody>
</table>

MICA IMPORT/EXPORT IN CHINA (METRIC TONNES)

<table>
<thead>
<tr>
<th>CHINA EX/IM</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>151,485</td>
<td>151,586</td>
<td>112,018</td>
<td>112,019</td>
</tr>
<tr>
<td>2014</td>
<td>159,120</td>
<td>159,120</td>
<td>100,965</td>
<td>100,965</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>160,855</td>
<td>NA</td>
<td>91,312</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>149,212</td>
<td>NA</td>
<td>85,488</td>
</tr>
</tbody>
</table>

73 The data collected from Amsterdam for China during the month of April 2017.
76 Email to SOMO, 2 June 2017.
77 Email to SOMO, 17 May 2017.
80 https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=145&agreeToTsAndCs=agreed
81 Note BGS says the figures are “conservative and based on exports”.
82 http://www.mica-china.com/
84 http://search.chinadaily.com.cn/search/query=mica+mining
85 http://www.minerals.net/mineral/phlogopite.aspx
86 http://www.minerals.net/mineral/muscovite.aspx
89 http://atlas.media.mit.edu/en/profile/hs92/252510/#Exporters
98 http://www.europages.co.uk/HEBEI-XINFA-MINERAL-COLTD/00000004559920-350271001.html
99 http://www.europages.co.uk/HUAJING-MICA-COLTD/00000003945683-222834001.html
100 http://www.europages.co.uk/SHIJIAZHUANG-HUIHUANGYUANTRADE-COLTD/CHN080235-17830001.html
102 http://www.europages.co.uk/HEBEI-XINFA-MINERAL-COLTD/0000000459920-352771001.html
REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR

The DOL reports that child labour is used to make the following products: coal (mining), cotton, electronics, fireworks, footwear, garments, nails, textiles and toys.102 A “Child Labor in China” report from 2007 states: “There are large numbers of legal minors or children engaged in some form of work after dropping out of school early.”103 The report then classifies six categories of child labour, including regular workers, casual workers, household helpers, apprentices, work-study students and forced labourers. Child labour104 in China has been reported105 and documented.106 However, much of the publicly available material is dated and there does not appear to be any official statistics around child labour.

According to a report by the China Labour Bulletin, official numbers of child labourers in China are not known because “undisclosed information and data on the handling of child labour cases nationwide is classified by the Chinese Government as highly secretive”.107

STOP CHILD LABOUR INITIATIVES

China reportedly launched a programme to stop child labour in the Democratic Republic of the Congo (DRC)108 when companies including Apple, Samsung, Sony and the Chinese companies Huawei and Zhejiang Huayou Cobalt were exposed for using child labour to make batteries.109 The UN has launched a global campaign to stop child labour by 202 in countries around the world including in China.110

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC has indicated its concern about widespread cases of children receiving lead poisoning due to business activities. This has caused permanent mental and physical disabilities to hundreds of thousands of children. The CRC also recommends that China strengthen its implementation of regulations regarding the compliance of businesses with human rights standards, and particularly children’s rights.

It is reported that child labour and exploitation is widespread in China. Many children are believed to be involved in hazardous work and the worst forms of child labour, particularly in the mining, manufacturing, and brick industries. The protection of children aged 16-18 from hazardous work is insufficient.111

ANALYSIS

- However large the figures appear to be for Chinese mica output/export/import, these numbers should be considered as estimates given that there is very little known about the mica industry in China. The BGS states that its production figures are estimates based on official exports, while the USGS states that its production figures are based on an unnamed Chinese report.
- Although the USGS does not list China as a producer of sheet mica,112 the OEC dataset notes that China exported mica in crude form, including sheets and splittings, to the UK, Japan and Finland in 2015.113 Given that China is a manufacturing superpower, both for domestic consumption and for exported products, it is conceivable that the country requires significant amounts of mica for manufacturing purposes in all of its various forms, including for the electronics industry (sheet mica) and the pigment industry (flakes and ground mica).
- Most of the mica China imported in 2015 came from India (71 per cent). This is a red flag, given the high levels of illegal mining and child labour in Indian mica mines. China also imported mica from Madagascar (12 per cent).
- Child labour, including child mining, is a documented problem in China, but there is very little accessible and current information available.
- China is a red flag country for three reasons. Firstly, due to the country’s child labour that includes child mining. Secondly, mica production figures are all estimates and quite varied, suggesting that there is no reliable information available on the production of mica.
- Thirdly, China is a manufacturing superpower, using all forms of mica for both electronics and pigments. This mica is imported from countries that are suspect of child labour, including India and Madagascar.

102 https://www.dol.gov/ilab/reports/child-labor/list-of-goods/
103 http://paper.usc.cuhk.edu.hk/webmanager/wkfiles/6471_1_paper.pdf
110 http://www.primary-materials.org.uk/news/2014/12/02/primary-materials-worldwide-newsletter-
111 http://www.china.org.cn/china/2016/01/03/482154.shtml
113 http://atlas.media.mit.edu/en/profile/c02/252510
6. FINLAND

DETAILS OF MICA MINING
Since 1979, the entire production of mica in Finland has been from the Archean Siilinjärvi carbonatite deposit.

In the Siilinjärvi apatite mine, situated in the eastern part of Finland, the mined ore contains 10 per cent apatite, 65 per cent phlogopite, 20 per cent calcite and dolomite combined, and 5 per cent other minerals. The apatite concentrate is used for the production of phosphoric acid. Phlogopite is a by-product, and is sold under the trade name ‘Kemira Mica’ for the different types of fillers. The Siilinjärvi mine is a large open-pit mine. Muscovite can also be produced as by-product from the Kinahmi and Kutemajärvi mines, but production has not yet begun as investment is needed to further purify the mica. According to the OEC database, the most exports in 2015 went to Japan (59 per cent), the US (17 per cent), Germany (14 per cent), and China (75 per cent). The remaining was exported to European countries.

THE KEY PLAYERS
Mica production – initiated in 1985 by the Kemira company and since 2005 owned by LKAB Minerals (formerly Minelco Ltd.) – has been around 12,500 tonnes per year since 2010. LKAB sells phlogopite mica under the product name MicaFort. According to the safety data sheet, it is used as reinforcing filler and functional filler.

HUMAN RIGHTS RISKS
Not found

IMPACT ON CHILDREN
N/A

MICA PRODUCTION IN FINLAND (METRIC TONNES)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>54,000</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>54,000</td>
<td>54,000</td>
<td>11,836</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>53,970</td>
<td>53,970</td>
<td>11,973</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>53,394</td>
<td>11,244</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>39,605</td>
<td>12,112</td>
<td>NA</td>
</tr>
</tbody>
</table>

MICA IMPORT/EXPORT IN FINLAND (METRIC TONNES)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>7,226</td>
<td>211</td>
<td>7,226</td>
<td>211</td>
</tr>
<tr>
<td>2014</td>
<td>7,909</td>
<td>264</td>
<td>7,909</td>
<td>265</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>208</td>
<td>NA</td>
<td>208</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>2,266</td>
<td>NA</td>
<td>2,266</td>
</tr>
</tbody>
</table>

MICA MINERALS YEAR BOOK

<table>
<thead>
<tr>
<th>YEAR</th>
<th>BIOTITE METRIC TONNES</th>
<th>CONCENTRATE METRIC TONNES</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>42,000</td>
<td>12,000</td>
<td>54,000</td>
</tr>
<tr>
<td>2014</td>
<td>41,997</td>
<td>11,973</td>
<td>53,970</td>
</tr>
<tr>
<td>2013</td>
<td>42,150</td>
<td>11,244</td>
<td>53,394</td>
</tr>
<tr>
<td>2012</td>
<td>27,493</td>
<td>12,112</td>
<td>39,605</td>
</tr>
<tr>
<td>2011</td>
<td>31,504</td>
<td>12,896</td>
<td>44,400</td>
</tr>
</tbody>
</table>

114 The data collected for Finland was done so in May 2017.
116 Mineral Deposits of Finland, by Wolfgang Derek Maier, Raimo Lahtinen, etc. https://books.google.nl/books?id=c0abBwAAQBAJ&pg=PA700&lpg=PA700&dq=industrial+mining+mica+finland&source=bl&ots=rLSggOe3-w&sig=bY33ti7WSq4wE8P42t9DfhaLEmQ&hl=nl&sa=X&ved=0ahUKEwiUxcL834jUAhXOaFAKHUqVAOcQ6AEITDAE#v=onepage&q=industrial%20mining%20mica%20finland&f=false
117 https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed These figures are representing mica concentrate.
7. FRANCE

DETAILS OF MICA MINING
According to the OEC database, most of France’s mica export in 2015 went to Germany (48 per cent), Italy (15 per cent), Spain (5 per cent) and the UK (5 per cent).

THE KEY PLAYERS
N/A

HUMAN RIGHTS RISKS
Not found

IMPACT ON CHILDREN
N/A

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR
N/A

MICA PRODUCTION IN FRANCE (METRIC TONNES)

<table>
<thead>
<tr>
<th>Year</th>
<th>FRANCE</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS120</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>20,000</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>20,000</td>
<td>20,000</td>
<td>20,700</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>20,000</td>
<td>20,000</td>
<td>20,200</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>20,000</td>
<td>19,700</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>20,000</td>
<td>18,000</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

MICA IMPORT/EXPORT IN FRANCE (METRIC TONNES)

<table>
<thead>
<tr>
<th>Year</th>
<th>FRANCE EX/IM</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>13,780</td>
<td>NA</td>
<td>3,148</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>13,922</td>
<td>13,891</td>
<td>2,195</td>
<td>2,149</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>13,201</td>
<td>13,201</td>
<td>2,049</td>
<td>2,049</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>13,352</td>
<td>NA</td>
<td>2,603</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>11,771</td>
<td>NA</td>
<td>2,321</td>
<td></td>
</tr>
</tbody>
</table>

STOP CHILD LABOUR INITIATIVES
N/A

UN COMMITTEE ON THE RIGHTS OF THE CHILD
The CRC is concerned that there is inadequate information about the measures that France has taken to regulate company activities in order to ensure that children’s rights are respected, also outside of their territory."121

120 https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed
8. INDIA

DETAILS OF MICA MINING
In its report “Beauty and a beast,” SOMO researched the most relevant Indian states regarding volumes of mica mining: Jharkhand and Bihar. According to the report, the majority of Indian mica mining takes place at the border of the Jharkhand and Bihar states, and around 90 per cent of this mica is illegally mined. At one point there were over 700 mica mines in India, but the industry was hit by legislation to limit deforestation in 1980, forcing most mines to close. However the growing demand for natural mica has activated illegal operators to access hundreds of the old closed mines, many in the forests of Jharkhand’s Koderma and Giridih districts.

According to the Indian Minerals Yearbook 2015, the most important mica belts are located in Andhra Pradesh, Bihar, Jharkhand, Maharashtra, Odisha, Rajasthan and Telangana. Occurrences of mica pegmatites have also reported in Gujarat, Haryana, Karnataka, Kerala, Tamil Nadu and West Bengal.

Koderma district in India’s Jharkhand Province has the world’s largest mica deposits, according to the British Geological Survey. Many of the mines are deep in forests that are designated conservation areas.

We need to be aware of the fact that there is a major problem with the official statistics provided by the Indian Government, namely that the production from the illegal mines is not included. The data in the below table originates from the reporting of 39 legal mines in 2013-14 and only 31 legal mines in 2014-15. Of these 31 mines, 25 are located in Andhra Pradesh (Nellore), one in Bihar ( Nawada), zero in Jharkhand, and five in Rajasthan (Ajmer, Bhiwara and Rajsamand).

An analysis of the export data of Zauba over 2015 shows that 74 per cent of the Indian mica exported is shipped from the Kolkata Sea (nearest port to Jharkhand and Bihar). The second biggest port of loading is Mundra (17.6 per cent, nearest to Rajasthan), the third is the Chennai Sea (6.1 per cent, nearest to Andhra Pradesh) and the fourth is Krishnapatnam (1 per cent, nearby Nellore, also in the state of Andhra Pradesh).

Based on this data it can be concluded that mica production in other states is minimal, as 97.7 per cent is already produced in the four major production locations.

The discrepancy between the export data and the official national statistics on production data is huge. This is due to the fact that there are no legal mines in Jharkhand, nor any official data on mica production there. SOMO estimated in 2016 that 89 per cent of the mica exported from Jharkhand and Bihar is from illegal mines. In the meantime, there are clear indications that 100 per cent of the mica production from this region is currently illegal, as the mining licenses of the

### PRODUCTION OF MICA (CRUDE AND WASTE/SCRAP), 2012-2015 (BY STATE IN METRIC TONNES)

<table>
<thead>
<tr>
<th></th>
<th>2012-13</th>
<th>2013-14</th>
<th>2014-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>8,592</td>
<td>9,287</td>
<td>8,280</td>
</tr>
<tr>
<td>Bihar</td>
<td>2,939</td>
<td>3,381</td>
<td>1,378</td>
</tr>
<tr>
<td>Jharkhand</td>
<td>782</td>
<td>2,110</td>
<td>0</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>5,198</td>
<td>6,635</td>
<td>2,830</td>
</tr>
<tr>
<td>Total India</td>
<td>17,511</td>
<td>21,412</td>
<td>12,488</td>
</tr>
<tr>
<td>Number of mines</td>
<td>NA</td>
<td>39</td>
<td>31</td>
</tr>
</tbody>
</table>

few supposedly legal mines have expired. There were no new licenses granted for prospecting new mica mining areas in 2014 or 2015 in either Bihar or Jharkhand. According to Indian authorities, only one mica mine was granted an extended license in 2016, but this was the Shokliya mine in Rajasthan.

In the autumn of 2016, following the media exposure on child labour and the cover-up of child deaths in illegal mica mining, authorities in India raided mica mines, arrested traders and initiated steps to regulate the underground industry. Although there are legal mines in Andhra Pradesh, an estimated 30 per cent of the export from this region is believed to be mined illegally, as well as 77 per cent of Rajasthan’s export. Note in the mica production table below that there are great discrepancies between sources.

According to the OEC, the largest exporters of mica in crude form, sheets and splitting (HS92:252510) are India (45 per cent) and Madagascar (16 per cent), followed by China (12 per cent). Given that the USGS states that India is the biggest producer of sheet and splitting mica, we looked at the official Comtrade export figures to find out what the official percentage of sheet and split mica is within the overall export of Indian mica.

According to the UN Comtrade dataset, India and Madagascar have been dominating the export market in sheet mica. The UN Comtrade data below reveals that over the last five years, Madagascar has annually increased its production of sheet mica, with the exception 2014 when India exported more.

### MICA PRODUCTION IN INDIA (METRIC TONNES)

<table>
<thead>
<tr>
<th>Year</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>12,300</td>
<td>19,000</td>
<td>600</td>
<td>12,491</td>
</tr>
<tr>
<td>2014</td>
<td>18,500</td>
<td>18,500</td>
<td>636*</td>
<td>21,412</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>14,000</td>
<td>1,660</td>
<td>17,511</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>13,700</td>
<td>1,256</td>
<td>NA</td>
</tr>
</tbody>
</table>

* These numbers include crude mica, waste and scrap. The source of the national statistics is the Indian Minerals Yearbook 2015, Ministry of Mines India. Note that the export figures are larger than the production figures, which indicates that much of the mica production is not reported and is thus illegally mined.

### MICA IMPORT/EXPORT IN INDIA (METRIC TONNES)

<table>
<thead>
<tr>
<th>INDIA EX/IM</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>127,338</td>
<td>NA</td>
<td>1634</td>
</tr>
<tr>
<td>2015</td>
<td>135,919</td>
<td>135,919</td>
<td>851</td>
<td>851</td>
</tr>
<tr>
<td>2014</td>
<td>138,332</td>
<td>138,332</td>
<td>996</td>
<td>996</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>130,540</td>
<td>NA</td>
<td>812</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>125,218</td>
<td>NA</td>
<td>588</td>
</tr>
</tbody>
</table>

### EXPORTS OF SHEET MICA BY INDIA AND MADAGASCAR BY VALUE AND VOLUME (2012-2016)

<table>
<thead>
<tr>
<th>SHEET MICA EXPORT*133</th>
<th>MADAGASCAR VOLUME (METRIC TONNES)</th>
<th>MADAGASCAR VALUE</th>
<th>INDIA VOLUME (METRIC TONNES)</th>
<th>INDIA VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>15,545</td>
<td>$3.06M</td>
<td>11,081</td>
<td>$7.6M</td>
</tr>
<tr>
<td>2015</td>
<td>13,652</td>
<td>$3.04M</td>
<td>11,655</td>
<td>$7.7M</td>
</tr>
<tr>
<td>2014</td>
<td>8,648</td>
<td>$2.03M</td>
<td>13,758</td>
<td>$9.1M</td>
</tr>
<tr>
<td>2013</td>
<td>6,795</td>
<td>$1.5M</td>
<td>4,240</td>
<td>$6.1M</td>
</tr>
<tr>
<td>2012</td>
<td>4,792</td>
<td>$1.6M</td>
<td>4,727</td>
<td>$5.7M</td>
</tr>
</tbody>
</table>

Source: UN Comtrade Database, table made by SOMO.

132 SOMO, March 2016.
133 http://atlas.media.mit.edu/en/profile/his92/252510/#Exporters
134 https://comtrade.un.org/data/
COUNTRY PROFILES OF MAJOR MICA-PRODUCING COUNTRIES

INDIAN GOVERNMENT MICA EXPORT/IMPORT

<table>
<thead>
<tr>
<th>Year</th>
<th>National Gov. Export</th>
<th>National Gov. Import</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014-2015</td>
<td>140,960</td>
<td>2,240</td>
</tr>
<tr>
<td>2013-2014</td>
<td>127,882</td>
<td>2,049</td>
</tr>
<tr>
<td>2012-2013</td>
<td>127,610</td>
<td>2,285</td>
</tr>
<tr>
<td>2011-2012</td>
<td>131,777</td>
<td>2,458</td>
</tr>
<tr>
<td>2010-2015</td>
<td>126,554</td>
<td>1,687</td>
</tr>
</tbody>
</table>

The OEC states that the biggest buyers of Indian sheet and splitting mica are China (33 percent), the USA (11 percent), Japan (11 percent) and South Korea (5.2 percent). The government of India released the above figures, which differ slightly but are in the same vicinity as the Comtrade figures.

The national statistics show that the majority of the exported mica goes to China (88,371 tonnes), and to a lesser extent Saudi Arabia (8,264 tonnes), Belgium (7,344 tonnes), Japan (6,679 tonnes) and the USA (5,524 tonnes).

According to the Industrial Minerals Review, most sheet mica products used in North America are imported from India (94 per cent) and China (5 per cent). Global production of sheet mica products in 2011 was about 52.2 kilotonnes with India as the largest producer of mica sheet, with a reported 3,500 tonnes. Russia was second with 1,900 tonnes.

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR

The number of child labourers involved in mica mining in Jharkhand and Bihar is estimated to reach up to 20,000.135 Investigations by the Thomson Reuters Foundation over a three-month period found children working in and around mica mines in northern Jharkhand, southern Bihar and in the northwest of the country in Rajasthan.136 An investigation by ITV in 2017 found that an estimated five to ten children die in these mines each month. The number of adult fatalities is higher, but 90 per cent of the deaths are never reported. The mine shafts reach deep into the earth, and cave-ins are commonplace because they are not shored up.140

The number of products produced by children in India is one of the largest (if not the largest) on the DOL list. The products listed are bidis (hand-rolled cigarettes), brassware, bricks, carpets, cotton, cotonseed (hybrid), embellished textiles, firework, footwear, garments, gems, glass bangles, incense (agarbatti), leather goods/accessories, locks, matches, rice, silk fabric, silk thread, soccer balls, stones and sugarcane. This list demonstrates that child labour is a widespread problem in India.136

STOP CHILD LABOUR INITIATIVES

- The Kailash Satyarthi Children’s Foundation is implementing a Child Friendly Villages Programme. The scheme aims to get children in the region into school and out of the mines by working with local communities and governments to improve educational infrastructure and living conditions.

- Terre des Hommes together with local partner organisations is implementing a social empowerment programme against child labour in Jharkhand and Bihar.

- Currently, a significant number of stakeholders are committed as active members to the “Responsible Mica Initiative, a cross sectoral partnership that works along three pillars (community empowerment, traceability & specifications and legal framework & advocacy) that works towards a responsible Indian mica supply chain.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The CRC is concerned about the displacement of many children and families due to manufacturing operations. Moreover, it recommends that India establish regulations to ensure business compliance with human rights law, and the remediation of victims when violations occur. Companies should do assessments on the impact of their activities, and disclose these assessments to the public.

There are still many children involved in child labour and hazardous work in India, in the mining sector among others. Progress has been made on legal aspects, however, as India has announced that it will ratify the ILO conventions regarding a minimum age for employment and will prohibit the worst forms of child labour.145

ANALYSIS

- The fact that export levels are so much higher than the official figures for mining production is a red flag. This usually indicates the presence of illegal mining in the form of artisanal and small-scale mining, which – unlike industrial mining – normally operates without leases and licenses. Illegal mining of mica has been reported in the states of Jharkhand and Bihar (around 90 per cent has been illegally mined). Although there are legal mines in Andhra Pradesh, 39 per cent of the export from this region is also estimated to be mined illegally, as well as 77 per cent of Rajasthan’s export.

- The presence of child labour in the mica mines in Jharkhand and Bihar has been widely reported. Investigators have also reported on child labour in mica mines in Rajasthan. Reports about child labour in Andhra Pradesh mines are not clear. The fact that there is also substantial illegal mica mining in Andhra Pradesh makes it plausible that child labour also takes place in this region, particularly when taking into account that child labour is a widespread problem in India.

- India is one of the biggest exporters of sheet mica.

- Mica is also found in Maharashtra, Odisha, and Telangana. Occurrences of mica pegmatites are also reported in Gujrat, Haryana, Karnataka, Kerala, Tamil Nadu and West Bengal. The production from these locations is however assumed to be minimal (at least less than one percent of the total export), as the loading ports in the proximity of these locations are only able to export small amounts.

137 Geological Survey of India
142 Compiled by the Thomson Reuters Foundation over a three-month period.
143 SOMO, March 2016.
144 http://news.trust.org/shorthand/mica/.
145 Terre des Hommes together with local partner organisations is implementing a Child Friendly Villages Programme.
9. IRAN

DETAILS OF MICA MINING

Iran is reportedly has 68 types of minerals and “47 billion tonnes of mineral reserves including large deposits of coal, iron ore, copper, lead, zinc, chromium, uranium and gold.” However, according to the reports, including Iran Mining & Mining Industries Development and Renovation, mica was the country’s least valuable mineral export in 2016.

Iran’s various mica reserves and resources amount to more than a million tonnes, and there are reportedly more than 400 deposits in the country. According to Encyclopaedia Iranica, there are two active mica extraction mines: Masula, in western Gilan Province near the Caspian Sea, and Karabakh in the East Azerbaijani Province. Mica is also reportedly mined in the north of the country at the Ghahg Bakh Mica Mine in Urmiya County in the West Azerbaijan Province.

According to the OEC, Iran exported mica to Turkey in 2015, valued at US$ 135,000. In the same year, Iran imported mica from India (77 per cent), China (68 per cent) and Turkey (8 per cent), valued at US$ 119,000. No further details could be found pertaining to the mine sites.

THE KEY PLAYERS

According to a commercial website, Novin Ertebat, Borun Cable Material Co., Ltd and EnergyKav, among others, are listed as working in the Iranian mica industry. An additional commercial website has a different list of companies working in the mining and processing sectors, including Maacan Mining & Industrial Co., Basti, DMPower, the Doroud Morvarid Powder Company, IMTC, Persian Mineral Co., Mica Foshe, Narinpdut, Kavandishan Fan Afarin, among others.

MICA PRODUCTION IN IRAN (METRIC TONNES)

<table>
<thead>
<tr>
<th>IRAN</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>5,600</td>
<td>NA</td>
<td>5,600</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>5,600</td>
<td>NA</td>
<td>5,600</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>NA</td>
<td>5,635</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>NA</td>
<td>7,000</td>
<td>NA</td>
</tr>
</tbody>
</table>

147 The data collected for Iran was done so during the month of April 2017.
150 http://www.iranianmines.org/articles/mining-in-iran-
151 http://www.iranicaonline.org/articles/mining-in-iran-
152 https://www.mindat.org/loc-230774.html
153 https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010-
157 https://search.gmdu.net/b/Mica%20Iran.html
158 http://www.companies.com/iran_mica_product.html

The MGT Mineral Company may mine mica in Iran, but this could not be confirmed.

No further details could be found concerning the key Iranian mica players.

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR

Child labour exists in Iran, according to UNICEF, and according to the ODL list, children in Iran are in the brick making and carpet trades. Media and NGOs note that child labour in Iran is widespread, and that child trafficking is also an issue in the country.

No further information could however be found on child labour linked to mica.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

No observations on the private sector are available: neither in concluding observations or state reports nor in civil society reports.

The CRC expresses concern about the large number of children engaged in hazardous work in Iran, such as garbage collection, brick kilns and industrial workshops. Moreover, a law exempting workshops with fewer than 10 employees from labour regulations is especially worrying. The CRC urges Iran to prohibit the employment of children below the age of 18 years in hazardous conditions.

ANALYSIS

- The mining industry is very developed, and looking to attract investment.
- More information was available about Iran than expected, although unfortunately little was found about mica. Iranian Mines & Mining Industries Development & Renovation is a good source of information about mining in Iran, but there is no mention of mica.
- Iran does not appear to export much mica, and imports about a third more than it produces nationally. This suggests that it is cheaper to import mica – mostly from India – than it is to further develop the Iranian mica industry.
- Child labour in Iran is a problem, notably in the brick building and carpet trades, which are distributed across the country. Given that the clay for bricks is mined, and children are unequivocally used for making bricks in Iran, there is a possibility that child mining of mica could also be taking place. However, no mention of children involved in mining could be found.

MICA IMPORT/EXPORT IN IRAN (METRIC TONNES)

<table>
<thead>
<tr>
<th>IRAN EX/IM</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>1.19K ($)</td>
<td>NA</td>
<td>335K ($)</td>
</tr>
<tr>
<td>2015</td>
<td>3</td>
<td>1.660</td>
<td>0</td>
<td>1,578</td>
</tr>
<tr>
<td>2014</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>
10. SOUTH KOREA

DETAILS OF MICA MINING
Mica is not widely reported as being mined as a mineral or natural resource in South Korea, and according to the USGS, mica production in South Korea has decreased over the last 15 years. In 2001, South Korean mica production was 109,339 metric tonnes. In 2015, South Korea produced 25,143 metric tonnes. According to the 2013 Annual Report of the Korea Institute of Geoscience and Mineral Resources (KIGAM), mica is found in the regions of Anmyeondo, Wonsando, Hwangdo, Oeyeondo and Hodo. According to a Japanese geology journal, mica also exists in the eastern Unsan County mining district of South Korea. Production figures in the TMR/USGS and BGS data are divergent. This should be investigated, given that the USGS data is almost double the BGS data for 2015. According to the OEC, in 2015 South Korea imported the most mica from China (53 per cent), Japan (18 per cent) and India (10 per cent). The country exported mica to Vietnam (62 per cent), Indonesia (12 per cent), China (8 per cent) and the USA (7.4 per cent).

Since South Korea exported much less mica than it produced and/or imported, it is probable that the country uses the mica it produces and imports for domestic manufacturing. South Korea is a manufacturing powerhouse, given that it is home to Hyundai, LG Electronics, Samsung, and steel producer POSCO.

No further information could be found about mica mines in South Korea.

THE KEY PLAYERS
Almonty Industries, through Woulfe Mining Corp., owns the Almonty Korea Tungsten Project in South Korea, which has white mica. According to the company’s website, financing for the project is being negotiated. According to Mbendi, there are two main industrial minerals mining companies in South Korea, including Korea Resources Corporation and Daehan Mineral, although no direct links to mica have been found.

166 Data collected for South Korean during April 2017.
169 Woo Jin Chung, “Experience and Goals of the ROK in Regional Mineral Sector Development Cooperation,” (Sept 2010);
173 https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=30237&agreeToTsAndCs=agreed
176 http://www.almonty.com/projects/korea_tungsten/
177 https://www.mbendi.com/indy/mining/indm/as/kr/index.htm
179 See https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=30237&agreeToTsAndCs=agreed
180 https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=30237&agreeToTsAndCs=agreed
181 According to a report from the Korea Energy Economics Institute, the authors state that mica reserves exist. However, the thrust of the report is that Korea has a strong “downstream” industry, given that the government’s strategy is to develop overseas mining ventures.
183 According to the BGS, mica production in South Korea has been very small, accounting for less than 0.15 per cent of GDP in 2009. Mines are closed each year, given that the government’s strategy is to develop overseas mining ventures.
184 Mica is not widely reported as being mined as a mineral or natural resource in South Korea, and according to the USGS, mica production in South Korea has decreased over the last 15 years. In 2001, South Korean mica production was 109,339 metric tonnes. In 2015, South Korea produced 25,143 metric tonnes.

No evidence could be found of child labour or children involved in or affected by mica mining.

UN COMMITTEE ON THE RIGHTS OF THE CHILD
The CRC notes that the increasing interest of South Korea businesses in corporate social responsibility has so far focused only on environmental issues. It urges South Korea to create a legislative framework to regulate the prevention of adverse human rights impacts from business activities. The CRC also states that by importing products from countries under investigation by the ILO for using forced child labour, South Korea is complicit in the breaching of child rights. When negotiating free trade agreements,

MICA PRODUCTION IN SOUTH KOREA (METRIC TONNES)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>25,000</td>
<td>30,000</td>
<td>17,405</td>
</tr>
<tr>
<td>2014</td>
<td>30,000</td>
<td>30,000</td>
<td>24,205</td>
</tr>
<tr>
<td>2013</td>
<td>26,000</td>
<td>NA</td>
<td>25,143</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>32,000</td>
<td>NA</td>
</tr>
</tbody>
</table>

MICA IMPORT/EXPORT IN SOUTH KOREA (METRIC TONNES)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>532</td>
<td>531</td>
<td>9,090</td>
<td>9,092</td>
</tr>
<tr>
<td>2014</td>
<td>536</td>
<td>535</td>
<td>8,741</td>
<td>8,734</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>1,088</td>
<td>NA</td>
<td>9,850</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>835</td>
<td>NA</td>
<td>9,169</td>
</tr>
</tbody>
</table>
South Korea should ensure that human rights assessments, including child rights, are conducted and that measures are taken to prevent violations.

The CRC is concerned about the increasing number of working children in South Korea, and urges the government to take measures in order to address the underlying socio-economic factors leading to this situation.179

ANALYSIS
- There are no particular red flags with respect to child labour in South Korea. However, the fact that Korea imports mica from China and India warrants further investigation, given the existence of child labour in these countries.
- Given that South Korea is home to some giant companies in the electronics sector, further research could be done into the sourcing of the mica used by these companies. Furthermore, given that South Korea is a manufacturing superpower, further research should look into imports of processed mica and imported products that could include mica. This would provide an overview of the mica used in electronics manufacturing, in particular.

11. MADAGASCAR

DETAILS OF MICA MINING
Madagascar180 is a large island located off the east coast of Africa. The country exports mainly phlogopite mica. Phlogopite mica is less flexible, but more heat resistant than the muscovite mica commonly found in the Jharkhand/Bihar regions of India.181, 182 Phlogopite mica is often used to produce mica paper and tape, according to the websites of Malagasy exporters and Chinese importers.183

Enormous mica crystals come from Betroka in the Tulear Province of Madagascar.184 However, in addition to phlogopite, the country also has muscovite deposits.185

Geological studies and explorations have established the existence of a broad range of mineral resources186 in Madagascar, including precious metals and gemstones.187 Only some of these mineral resources, including chrome, nickel and ilmenite, have already been industrially exploited. Others, including iron ore and coal, are currently under exploration.188 Other mineral resources, including mica, have only been exploited in small-scale extraction projects and by artisanal miners.

There is the potential for more phlogopite to become available as a by-product of graphite and vanadium mining ventures in Madagascar.189 A list of 30 locations where phlogopite can be found in the country can be viewed through the link in the footnote.190

PRODUCTION OF PHLOGOPITE IN MADAGASCAR (1998-2010)

![Production of Phlogopite in Madagascar (1998-2010)](source.png)

The mining of phlogopite mica experienced a strong dip in 2009, when a violent coup took place in Madagascar. However, after the coup leaders were installed, production was again increased. (Also see the section on human rights risks in this country analysis.)

Mica seems to reside in the category of artisanal and illegal mining, a category that is dominated by Madagascar’s exports of precious stones (sapphires) and gold.191 Along with the larger trade in sapphires and gold, there is also no publicly available information on material flows and child labour within the country with regard to mica.


180 Data collected for Madagascar was done so over the month of March and April 2017.


182 Other countries that are principal producers of phlogopite mica are Sri Lanka, Canada and Finland, as most of the other mica-producing countries produce muscovite mica. Industrial Minerals Review 2014, Mining Engineering, 1 July 2015.


184 http://www.minerals.net/mineral/phlogopite.aspx

185 http://www.nationsencyclopedia.com/Africa/Madagascar-MINING.html

186 These include industrial and metallic minerals: titanium (ilmenite), of which Madagascar holds the world’s largest reserves, graphite, gypsum, dolomite, silica, mica, quartz, gold, platinum, silver, iron ore, copper, zinc, nickel, cobalt, chromite, zinc, coal and rutile. http://www.developingmarkets.com/ perspectives/why-madagascar- intriguing-fdi-destination

187 Ruby, sapphire (half of the world’s supply), emerald, aquamarine, beryl, tourmaline, topaz, garnet, cordierite, rose quartz, and decorative stones. (crystal, marble, skilful wood, paper and textile). http://www.developingmarkets.com/ perspectives/why-madagascar- intriguing-fdi-destination


There were no official governmental statistics on mica production found. Note, when comparing the production table with the export table, that the export of mica is larger than the production. This is a red flag, and indicates the possibility that some of the production is mined illegally since it is not accounted for in the production figures. Also note in the table below that according to UN Comtrade data, Madagascar's overall mica exports increased by 34 per cent in 2016 to 22,311 metric tonnes, up from 16,664 tonnes in 2015. Mica export transparency Initiative (EITI), which disclosed tax payments made by companies in 2013 to the Malagasy government. The table below demonstrates that since 2013, the majority of Madagascar's mica exports have been sheets and splittings, and therefore, we can assume, destined for the electronics industry. The data in the table below also demonstrate that in 2012, sheet and split mica exports were less than half of total mica export. Since 2013 however they have become increasingly larger, and currently represent 70 per cent of total mica export.

**THE KEY PLAYERS**

Pan African Mining, a subsidiary of the Thai group Thai Group International Thai Development, has held a 10,000 square kilometre concession since 2009 where it mines uranium (under the name of Pan Atomics) at the Morambye site. The company has reportedly built substantial infrastructure, including an airfield at Solaos where it also extracts mica, citrine, crystal and coal. The Thai group reportedly belongs to Premchais Karnasuta, who is the world's 35th richest person according to Forbes Magazine. A company called Groupe Akesson Mineragrex S.A. exports 2,600 tonnes of mica (muscovite and phlogopite) per year, according to its website. Other information (about this same company) reports that it operated the most important phlogopite mine in Madagascar, but that the mine closed in 2016. This mine was started in 1918 by the company Union des Micas, and is currently owned by the company Société Minière d’Ampandirandava (SOMIDA). An underground mine has not yet been verified, but was reportedly partially accessible in 2013. Societe des Mines d’Ampandirandava produced about 1,000 tonnes of mica per year from mines in southeastern Madagascar. Increased production between 2009 and 2012 was probably attributable to artisanal miners near Analamarina in the Anosy region.

**HUMAN RIGHTS RISKS**

Since the coup in March 2009, and the official instalment of the coup leaders the following year, Madagascar has been marked by chaotic management, corruption, insecurity, intimidation and poverty. There is a large-scale looting of natural resources. Poverty affects children more severely in southern Madagascar, where...
over 65 per cent of the region’s children live in extreme poverty. These children are being deprived of their basic rights, including food, health, education, housing and security. Since June 2012, southern Madagascar, and particularly the population in the Androy and Anosy regions, has been repeatedly targeted by police and armed militia. It is in this part of the country that the mineral resources are significant and varied, and include industrial minerals (uranium, mercury, rare earths, mica, coal, ilmenite) in addition to precious and semi-precious stones, gold, very high quality diamonds, and oil.204

According to testimonies by local leaders, certain political and economic lobbies would like “to get rid of a good part of the South’s population to facilitate the exploitation of its mineral resources in this part of island.”202 NGOs say that forced displacement and land confiscation from traditional owners takes place in Madagascar, with the complicity of the national authorities.203 This enables transnational corporations to use the land for mining or agribusiness. In addition to this lack of consultation of the affected populations regarding mining development projects, the pollution of farmlands and environments deprives them of their means of subsistence. Deforestation continues at a frightening pace. Environmental degradation has become a major issue.204

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR

The US DOJ’s List of Goods Produced by Child Labour has listed Madagascar as one of the countries practicing child labour, with sulphur and stone mining as well as picking vanilla.205 The most recent list of UNICEF child labour statistics indicates that 23 per cent of all children in Madagascar are engaged in child labour.206 A national survey published in 2012 indicated that 81 per cent of child workers between the ages of 5 and 17 were engaged in hazardous work. This is equivalent to 1.7 million children.207

In December 2013, a French journalist travelled hundreds of kilometres inland with a mica trader. The journey by truck included travelling to the city of Ilakaka and a hamlet near the village of Analamarina in the south of Madagascar. The journalist went with the trader into the village to buy mica mined by the families. There was no electricity, no gas, no running water, no school, no health clinic, and no officials in the village. Poor families, the elderly, children, women and men were all working together in the bush to mine mica, which they had been collecting and mining for months. The journalist reported that of the 80 children who lived in this village, none of them ever went to school. Many of the children were also sick.208

STOP CHILD LABOUR INITIATIVES

Child labour in vanilla production in Madagascar has been reported in the media.209 An ILO representative reported in 2014, “An ILO representative said that the organisation has studied the northern region of Sava since 2009, and that they have accounted for 20,000 children, or around 31-33 per cent of the workforce, involved in vanilla production.”210 There is now a Sustainable Vanilla Initiative that aims to improve the livelihoods of the vanilla bean farmers, hosted by the Sustainable Trade Initiative (IDH).211

In February 2016, the ILO Committee of Experts on the Application of Conventions and Recommendations (CEACR) asked Madagascar to supply full details on its worst forms of child labour, to be discussed at the International Labour Conference in May-June 2016.212

UN COMMITTEE ON THE RIGHTS OF THE CHILD

In Madagascar, the CRC is concerned that the exploitation of natural resources – for example in the mining sector and by the extractive and forestry industries – does not always benefit the local community, including the children. Harmful effects for children and their families may be the result, through the economic exploitation of children, the resettlement of communities without appropriate services, and damage to the environment. There is a lack of regulatory frameworks concerning social and environmental responsibility for businesses.

The CRC is concerned about the large number of children involved in child labour, particularly in domestic services, agriculture and the mining industry. Although there are policies combating child labour, there is little information about the prosecution of responsible persons.213

ANALYSIS

• In Madagascar, the mica mining conditions are quite similar to those in Jharkhand and Bihar in India.

• According to the USGS, there is no sheet mica mined in Madagascar. However Comtrade data notes that Madagascar has been increasingly exporting sheet and split mica since 2012, and in 2016 sheet and split mica represented 70 per cent of Madagascar’s total mica export.

• Given that mica production figures are lower than mica export figures overall suggests that there could be illegal mining in Madagascar.

• That there are no official Madagascar sheet and split mica production figures, yet the Comtrade export data of sheet and split mica demonstrate that Madagascar is the world’s biggest exporter of sheet and split mica, warrants further investigation.

• The OEC website notes that Madagascar’s biggest customers for its exported sheet and split mica in 2015 were China, Belgium/Luxembourg and Russia.214 Mica seems to reside in the category of artisanal and illegal mining, and given that Madagascar is the global top exporter of sheet and split mica by volume, according to the OEC,215 further investigation is needed in order to validate these findings.

• The Comtrade summary of exported mica sheet and split (HS92:252510) notes that despite (officially) exporting the greatest quantity of mica by weight, Madagascar earns roughly five times less than India and less than half of what the Chinese and Brazilians earn for their mica exports.

• The described human right violations taking place in Madagascar enable mining development projects – especially in the South and including mica mining – and have a grave impact on children and children’s rights.

• According to the TMR market report and Comtrade export figures, Madagascar is increasingly becoming a more important source of mica. Comtrade export data pinned the country as the official largest exporter of sheet mica in 2016, most of which was exported to China.

• Madagascar is clearly a red flag country given the volumes of mica deposits (both developed and undeveloped); the prevalence of child labour and child exploitation in many sectors including in mica mining according to media reports; and the fact that it is the biggest exporter of sheet and split mica, used almost exclusively by the electronics industry.

201 http://www.owim.ch/landing/2015/03/27/violation-human-rights-madagascar/
204 http://www.owim.ch/landing/2015/03/27/violation-human-rights-madagascar/
205 https://www.idhsustainabletrade.com/initiative/sustainable-vanilla-initiative/
206 https://www.danwatch.dk/en/undersogelse/thehiddencostofvanilla/
207 International Labour Conference in May-June 2016.213
208 According to testimonies by local leaders, certain political and economic lobbies would like “to get rid of a good part of the South’s population to facilitate the exploitation of its mineral resources in this part of island.”202 NGOs say that forced displacement and land confiscation from traditional owners takes place in Madagascar, with the complicity of the national authorities.203 This enables transnational corporations to use the land for mining or agribusiness. In addition to this lack of consultation of the affected populations regarding mining development projects, the pollution of farmlands and environments deprives them of their means of subsistence. Deforestation continues at a frightening pace. Environmental degradation has become a major issue.204

209 National Labour Organization, “Report of the Committee of Experts on the application of Conventions and Recommendations (CEACR) asked Madagascar to supply full details on its worst forms of child labour, to be discussed at the International Labour Conference in May-June 2016.212
211 https://www.owim.ch/landing/2015/03/27/violation-human-rights-madagascar/
212 https://www.owim.ch/landing/2015/03/27/violation-human-rights-madagascar/
213 This should be followed up for an update.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

In Madagascar, the CRC is concerned that the exploitation of natural resources – for example in the mining sector and by the extractive and forestry industries – does not always benefit the local community, including the children. Harmful effects for children and their families may be the result, through the economic exploitation of children, the resettlement of communities without appropriate services, and damage to the environment. There is a lack of regulatory frameworks concerning social and environmental responsibility for businesses.

The CRC is concerned about the large number of children involved in child labour, particularly in domestic services, agriculture and the mining industry. Although there are policies combating child labour, there is little information about the prosecution of responsible persons.

ANALYSIS

In Madagascar, the mica mining conditions are quite similar to those in Jharkhand and Bihar in India.

According to the USGS, there is no sheet mica mined in Madagascar. However Comtrade data notes that Madagascar has been increasingly exporting sheet and split mica since 2012, and in 2016 sheet and split mica represented 70 per cent of Madagascar’s total mica export.

Given that mica production figures are lower than mica export figures overall suggests that there could be illegal mining in Madagascar.

That there are no official Madagascar sheet and split mica production figures, yet the Comtrade export data of sheet and split mica demonstrate that Madagascar is the world’s biggest exporter of sheet and split mica, warrants further investigation.

The OEC website notes that Madagascar’s biggest customers for its exported sheet and split mica in 2015 were China, Belgium/Luxembourg and Russia. Mica seems to reside in the category of artisanal and illegal mining, and given that Madagascar is the global top exporter of sheet and split mica by volume, according to the OEC, further investigation is needed in order to validate these findings.

The Comtrade summary of exported mica sheet and split (HS92:252510) notes that despite (officially) exporting the greatest quantity of mica by weight, Madagascar earns roughly five times less than India and less than half of what the Chinese and Brazilians earn for their mica exports.

The described human right violations taking place in Madagascar enable mining development projects – especially in the South and including mica mining – and have a grave impact on children and children’s rights.

According to the TMR market report and Comtrade export figures, Madagascar is increasingly becoming a more important source of mica. Comtrade export data pinned the country as the official largest exporter of sheet mica in 2016, most of which was exported to China.

Madagascar is clearly a red flag country given the volumes of mica deposits (both developed and undeveloped); the prevalence of child labour and child exploitation in many sectors including in mica mining according to media reports; and the fact that it is the biggest exporter of sheet and split mica, used almost exclusively by the electronics industry.

12. MALAYSIA

DETAILS OF MICA MINING

The mica produced in Malaysia\(^{218}\) is called sericite. It is a fine-grained muscovite mica that is processed in various sizes of ground mica.\(^{219}\) The government site It is a fine-grained muscovite mica that is processed in various sizes of ground mica.\(^{219}\) The government site detailing Malaysia’s mica production notes that ground mica is used specifically in industrial applications such as paint fillers and cosmetics, as mold lubricant in the rubber industry, as a fluxing agent for welding electrodes, and as reinforcement in plastics.\(^{220}\)

The government mineral statistics site indicate that there were two mica mines operational in 2016, both located in Bidor, Perak and operating in a former tin mine.\(^{221}\) According to the government website, only 20 workers work at these two mica mines. According to the Malaysian Government website, most of Malaysia’s mica production is exported to Japan, Thailand, Taiwan and South Korea.\(^{222}\) No further details could be found pertaining to mica mines in Malaysia. Malaysia’s mica production is exported to a diverse list of countries. It is noteworthy that mica exports were higher than mica production in 2015, even when taking imports into account.

THE KEY PLAYERS

There were two mica producers in Malaysia in 2016, both located in Bidor, Perak and operating on the land of a former tin mine.\(^{223}\) One of these producers is Kaolin (Malaysia) Sdn Bhd,\(^{224}\) based in Tapah, Perak. No further details were found concerning the key companies involved in the Malaysian mica trade.

HUMAN RIGHTS RISKS

Malaysia’s human rights situation continued to deteriorate in 2016, with human rights defenders, activists, political opposition figures, and journalists facing harassment and politically motivated prosecution. The human rights issues related to Malaysia concern the following: freedom of expression; freedom of assembly and association; police abuse and impunity; criminal justice system; refugees, asylum seekers, and trafficking victims; judicial freedom; and discrimination based on gender, sexual orientation, and gender identity.\(^{225}\)

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR

The US DoL’s List of Goods Produced by Child Labour has listed Malaysia as one of the countries that exploits child labour in the palm oil industry.\(^{226}\) The most recent list of UNICEF child labour statistics does not mention the occurrence of child labour in Malaysia.\(^{227}\)

STOP CHILD LABOUR INITIATIVES

Child labour in mica mining is not reported, hence there are no initiatives in the country to end child labour in mica mining.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

No observations about the private sector are available.\(^{228}\)

ANALYSIS

- Malaysia is a substantial exporter of mica onto the world market, exporting between 6,000-7,000 tonnes annually.
- No information was found about the artisanal and/or illegal mining of mica in Malaysia. The fact that export figures are higher than production figures however gives an indication that there is a level of artisanal and/or illegal mining.
- Although child labour is not reported in mica mining, there are however reports about child labour in the Malaysian palm oil industry.
- The presence of artisanal and/or illegal mica mining and the possible use of child labour needs further investigation, given that the possibility of child labour in mica mining exists.

MICA PRODUCTION IN MALAYSIA (METRIC TONNES)

<table>
<thead>
<tr>
<th>MALAYSIA</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS(^{222})</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>4,716(^{223})</td>
</tr>
<tr>
<td>2015</td>
<td>4,788</td>
<td>NA</td>
<td>4,788(^{224})</td>
<td>4,788</td>
</tr>
<tr>
<td>2014</td>
<td>5,659</td>
<td>NA</td>
<td>5,659</td>
<td>5,659</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>NA</td>
<td>4,363</td>
<td>4,363</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>3,967</td>
<td>3,967</td>
<td>3,967</td>
</tr>
</tbody>
</table>

MICA IMPORT/EXPORT IN MALAYSIA (METRIC TONNES)

<table>
<thead>
<tr>
<th>MALAYSIA EX/IM</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>6,883</td>
<td>NA</td>
<td>1,039</td>
</tr>
<tr>
<td>2015</td>
<td>6,321</td>
<td>6,320</td>
<td>945</td>
<td>944</td>
</tr>
<tr>
<td>2014</td>
<td>6,135</td>
<td>6,134</td>
<td>1,243</td>
<td>1,243</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>6,911</td>
<td>NA</td>
<td>985</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>6,331</td>
<td>NA</td>
<td>823</td>
</tr>
</tbody>
</table>

Source: Database of the Observatory of Economic Complexity\(^{226}\)

218 Data collected for Malaysia during the month of April 2017.
220 http://malaysianminerals.com/index.php?option=com_content&task=view&id=31&Itemid=54
221 http://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed
231 UNICEF global databases, 2016, based on DHS, MICS and other nationally representative surveys.

MALAYSIA SOURCES:

231 UNICEF global databases, 2016, based on DHS, MICS and other nationally representative surveys.

MICA IMPORT/EXPORT IN MALAYSIA (METRIC TONNES)

<table>
<thead>
<tr>
<th>MALAYSIA EX/IM</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>6,883</td>
<td>NA</td>
<td>1,039</td>
</tr>
<tr>
<td>2015</td>
<td>6,321</td>
<td>6,320</td>
<td>945</td>
<td>944</td>
</tr>
<tr>
<td>2014</td>
<td>6,135</td>
<td>6,134</td>
<td>1,243</td>
<td>1,243</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>6,911</td>
<td>NA</td>
<td>985</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>6,331</td>
<td>NA</td>
<td>823</td>
</tr>
</tbody>
</table>

EXTRACTION DESTINATION (LARGEST IMPORTERS ONLY)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>IMPORTER</th>
<th>IMPORTANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Japan (20%), Thailand (16%), US (14%), Indonesia (12%), South Korea (9.5%)</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>Japan (23%), Thailand (17%), US (11%), Indonesia (11%), China (11%), South Korea (10%)</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>Japan (29%), China (13%), Thailand (12%), Indonesia (8.5%), South Korea (7.9%), US (7.1%)</td>
<td></td>
</tr>
</tbody>
</table>
13. PAKISTAN

DETAILS OF MICA MINING

Despite it being a mineral-rich country, there is little information about mica mining in Pakistan. According to the USGS, Pakistan’s mineral resources include clays, copper, dolomite, gypsum, iron ore, limestone, marble, salt, sand and gravel, and silica as well as precious stones. Energy resources include coal, natural gas and oil.

In Pakistan, mica deposits are found in the Balochistan region. According to minerals.net, fine muscovite plates, often associated with valuable pegmatite gemstones, come from the Shigar Valley and Skardu district in northern Pakistan. The Mindat.org dataset lists mica, or minerals from the mica group, in 8 different regions of Pakistan.

At the time of writing, a request had been made to the Ministry of Pakistan for mica production figures since no other official figures could be found. There are various commercial websites promoting the sale of mica mined in Pakistan.

Pakistan’s official mica exports declined quite dramatically between 2013 and 2014. For example, production officially fell to 410 metric tonnes in 2014 from 2,225 metric tonnes in 2013, which raises two questions. Firstly, what was the reason for the dramatic drop and what happened with production capacity at these mica mines during this period? And secondly, is it possible that the production figures were higher than what was officially reported?

A closer look at Pakistan’s mica exports shows us that much of what is exported is sheet mica. Sheet mica is mined by hand, and is used almost exclusively by the electronics industry.

Also of note is that according to UN Comtrade data, in 2012, 2013, 2014 and 2015 almost all of Pakistan’s exported mica went to China. China thus appears to be the main buyer of Pakistani mica.

In recent years, namely in 2015 and 2014, Pakistan imported more mica than it exported, which warrants further scrutiny.

The major countries that import mica from Pakistan are:

2012: US (98.5 per cent of total import), India, Brazil and China
2013: India (58 per cent), US (23 per cent), South Korea (16 per cent)
2014: US (42 per cent), India (19 per cent), China (18 per cent), South Korea (13 per cent)
2015: US (89 per cent), Japan (6 per cent), China (4 per cent)

233 Data collected for Pakistan was done so over the month of May in 2017.
235 https://books.google.nl/books?id=32YVrPAHeSMC&pg=RA1-PA107&lpg=RA1-PA107&dq=mica+production+of+pakistan&source=bl&ots=XUymTa26mb&sig=FU8iY0nz8z4QqJCzEalpnXldlII&hl=nl&sa=X&ved=0ahUKEwiSqMDyjvfTAhUFb1AKHQD_A-cQ6AEINzAB#v=onepage&q=mica%20production%20of%20pakistan&f=false
236 http://www.minerals.net/mineral/muscovite.aspx
238 http://deepakawning.in/Aug-02/24906/mica-mining-in-balochistan/
239 http://www.pk.all.biz/quartz-bgg1058363
240 https://comtrade.un.org/data/
Pakistan’s imports of mica from China, as reported officially by China, are listed below. Note that China is Pakistan’s biggest buyer of mica, and that almost a third of Pakistan’s exported mica in 2013 went to China.

THE KEY PLAYERS
Home Crystal Minerals Corporation (CMC) is one of the leading mining and trading companies in Pakistan. CMC was incorporated in 1976 as an exporter of various sorts of metallic and non-metallic minerals from Pakistan.241 The following companies were listed on the e-commerce site Alibaba promoting Pakistani mica: Gilgit-Baltistan Mettle & Minerals, Metal GB Minerals, Sana Traders, and Standard Paint Industries.242 Little other information could be found pertaining to Pakistan’s mica industry.

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR
The US DOL has found some of the worst forms of child labour in Pakistan, including forced domestic work and bonded labour in brick kilns as well as coal mines. According to the DOL, the Government of Pakistan does not have the resources to enforce the laws prohibiting child labour, even in its worst forms.243

STOP CHILD LABOUR INITIATIVES
Pakistan’s Ministry of Social Welfare and Special Education initiated a program that aims to remove children aged 5 to 14 from hazardous labour and provide them with education, clothing and a stipend. As of 2012, there were 111 national centres for the rehabilitation of child labourers in the country.

An ILO-funded program engages brick kiln owners in Sindh and Punjab to establish new practices to help eradicate bonded labour, including bonded child labour. The project links brick kiln workers to social safety nets.244

The Punjab provincial government scheme, which began in January 2016, helped place almost 90,000 underage Pakistani brick kiln workers in school as part of an initiative aimed at easing the long-standing problem of indentured labour.245

UN COMMITTEE ON THE RIGHTS OF THE CHILD
No observations on the private sector are available.

The CRC is concerned about the large number of children involved in child labour, including hazardous work. Also, it has concerns about the low minimum age of 14 years for this kind of work. Pakistan is urged to take measures to eradicate child labour by addressing the root causes.246

ANALYSIS
• Pakistan’s official export of mica rises and falls without explanation, which brings up the question of whether the figures are at all accurate.
• Pakistan exports mostly (if not entirely) sheet mica, which is mined by hand and used exclusively by the electronics industry.
• Pakistan also imports mica, but the source of the imports is unknown.
• Child labour is rife in Pakistan, including in coal and salt mining and in the brick industry. The DOL report notes that the extent of child labour in these sectors in Pakistan is unknown. It is thus possible that mica mining also uses child labour.

MICA IMPORTS REPORTED BY CHINA FROM PAKISTAN AND THE TOTAL (METRIC TONNES)

<table>
<thead>
<tr>
<th>Year</th>
<th>Mica Import Reported by China</th>
<th>From Pakistan</th>
<th>Total Mica Import by China from All Countries</th>
<th>Percentage of World Total That is Imported from Pakistan by China</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>139</td>
<td>112,019</td>
<td>0.12%</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>175</td>
<td>100,965</td>
<td>0.17%</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>690</td>
<td>91,312</td>
<td>0.76%</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>612</td>
<td>85,488</td>
<td>0.72%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>547</td>
<td>112,019</td>
<td>0.48%</td>
<td></td>
</tr>
</tbody>
</table>

241 http://www.crystal-minerals.com/product.html
242 These links are found via Alibaba: https://www.alibaba.com/countrysearch/PK/mica-mineral.html
243 https://www.dol.gov/agencies/ilab/resources/reports/child-labor/pakistan.pdf. More government initiatives can be found on page 6 of this document, see Table III.
**14. PERU**

**DETAILS OF MICA MINING**

Peru is ranked third among global producers of copper, silver, tin and zinc; fourth in molybdenum and lead; and fifth in gold, according to the USGS. It is estimated that Peru has around 200 operating mines, and according to mining consultants SES Professionals, Peruvian mining capacity could triple current levels of output in the near future.249

Copper, silver and lead are the most commonly mined commodities in Peru, while mica is the least mined mineral with a reported eight mines in the country.250

There is very little publicly available information about mica mining in Peru apart from The Diggings website, which reports that Peru is mined in the Arequipa region, also a gold mining area.251

The Mindat.org website notes that Peru has many deposits of muscovite mica including illite, sericite, natrolite, neotocite, nepheline and olivine. Mindat.org also states that Peru has four phlogopite deposits in the departments of Ancash, Ica, La Libertad and Puno.252

Very little official information could be found about mica production in Peru, and neither the USGS or the BGS have any information about mica mining in the country. Peru imports more mica than it produces, which suggests that it is cheaper to buy imported mica than to mine it in Peru. However given the reported mica deposits in the country, the question remains as to whether this Peruvian mica ends up in any official statistics. According to the OECD, in 2015 Peru imported mica from the USA (56 per cent), Germany (22 per cent) and Canada (11 per cent).253

No further information about mica production in Peru could be found.

**THE KEY PLAYERS**

According to The Diggings, none of the eight mica deposits in Peru are of “world-class quality” or considered “significant.” This could not be confirmed or verified with other sources.

No information could be found about the companies mining mica in Peru. According to Mining Global, the following companies have operations in Peru (if the companies are also active in the gold sector they have been marked with a (G): Zinc Industries SA (G), Consorcio Minero Horizonte SA (G), Doe Run Peru, Fortuna Silver Mines Inc., Southern Copper Corporation, Rio Tinto, BHP Billion (G), Gold Fields (G) and Barrick Gold (G).

**REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR**

The CIA’s World Factbook of countries with child labour includes Peru.254 A reported 34 per cent of children between 5-17 years of age are in the workforce statistics. According to the DOL256 also lists Peru as a country where child labour is pervasive.257

The investigation by NGO Verité into the worst forms of child exploitation reported that child slavery and sex exploitation of children, is reported and uncontested.258

Child labour and gold mining in Peru, which has also been linked to slavery, trafficking and the sexual exploitation of children, is reported and uncontested.259

**STOP CHILD LABOUR INITIATIVES**

According to the US DOL, the Peruvian government has made “significant advancement” in efforts to reduce child labour through new laws and policies as well as by introducing inspections. However, the same DOL

### MICA PRODUCTION IN PERU (METRIC TONNES)

<table>
<thead>
<tr>
<th>PERU PRODUCTION</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>90</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>90</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

### MICA IMPORT/EXPORT IN PERU (METRIC TONNES)

<table>
<thead>
<tr>
<th>PERU EX/IM</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>40</td>
<td>NA</td>
<td>162</td>
</tr>
<tr>
<td>2015</td>
<td>37</td>
<td>36.7</td>
<td>240</td>
<td>240</td>
</tr>
<tr>
<td>2014</td>
<td>47</td>
<td>47</td>
<td>194</td>
<td>194</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>51</td>
<td>NA</td>
<td>169</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>48</td>
<td>NA</td>
<td>176</td>
</tr>
</tbody>
</table>

---

247 Data collected for Peru was done so over the month of April in 2017.
249 http://sesprofessionals.com/overview-of-perus-mining-industry/
250 https://thediggings.com/per/arequipa-per3108/mines?primary_commodity_group=mica
251 https://thediggings.com/commodities/gold/per
252 https://www.mindat.org/minlocsearch.php?frm_id=mls&cform_is_valid=1&cf_mls_page=1&minname=phlogopite&region=peru&sort=&submit_mls=Search
254 https://thediggings.com/per/arequipa-per3108/mines/primary_commodity_group=mica
256 https://www.dol.gov/ilab/reports/child-labor/list-of-goods/
258 http://www.newyorker.com/business/currency/whos-to-blame-for-perus-gold-mining-troubles
264 https://www.dol.gov/agencies/ilab/resources/reports/child-labor/peru
265 https://www.dol.gov/ilab/reports/child-labor/list-of-goods/
266 http://amazonaid.org/gold-mining-is-modern-slavery-for-many-children-in-peru/
268 http://amazonaid.org/gold-mining-is-modern-slavery-for-many-children-in-peru/
270 http://amazonaid.org/gold-mining-is-modern-slavery-for-many-children-in-peru/
276 http://amazonaid.org/gold-mining-is-modern-slavery-for-many-children-in-peru/
report notes that child labour in Peru is rife and that the Peruvian labour and criminal law agencies do not have the means or training to adequately deal with the situation.265 The report, which does not link child labour specifically with mica mining, also notes that Peruvian law allows teenagers to work in mining.266 Verité has made recommendations to the Peruvian Government, the US Government, and buyers and corporations.267

**UN COMMITTEE ON THE RIGHTS OF THE CHILD**

The CRC is concerned about the impact of mining and hydroelectric projects on the living conditions of children and their families, including hazards to their health and the environmental degradation connected to such projects. Moreover, the Committee is worried about the fact that the law on the rights of indigenous people does not apply to all groups, and that certain projects in the mining sector are excluded from the accompanying consultation process.

The Committee is also concerned that the minimum age for employment in Peru is 14 years of age and that child labour remains a problem, with a high percentage of children working in the worst forms of child labour. These include mining, agriculture, brick making, and illegal activities.268

**ANALYSIS**

- Peru imports more mica than it officially produces, which suggests that it is cheaper for Peru to import mica than to mine it locally. However there are no verifiable figures to check the actual production of mica in Peru, given that neither the USGS nor the BGS report figures in the country.
- According to the OEC, Peru imported 56 per cent of its mica in 2015 from the US, followed by Germany (22 per cent) and Canada (11 per cent).269
- Mica mining in Peru is not a significant commodity, and production and export numbers are not very high. However if artisanal or illegal mica mining exists, these figures would most likely not be visible given that the export figures are less than the production figures. As there is documented evidence of illegal gold mining in the same region as the mica deposits, it is worth investigating whether illegal mica mining also exists.
- Child labour and child slavery in the Peruvian gold mining industry is rife, and well documented by governments, the UN, the media and NGOs.
- The known mica mines are in the Arequipa region, which is also a Peruvian gold mining region. This means that if children are mining for gold in this region, they could also work in the mica mines, and possibly under similar slave conditions as in the gold mines.

265 https://www.dol.gov/agencies/ilab/resources/reports/child-labor/peru
266 https://www.dol.gov/sites/default/files/images/ilab/child-labor/Peru.pdf
15. RUSSIA

DETAILS OF MICA MINING
According to the 2013 USGS mineral handbook for Russia, the country was ranked among the world’s leading producers of mineral commodities that year. However, despite noting that Russia is a leader in mica production, there is very little else reported apart from that the country has three mica mines.

According to a USGS report from 2012, Russia has the Lepatova Guba mica pit in the north of the Kareliya Republic. It also has the Kovdor phlogopite mine in the Kola Peninsula in Murmanskaya Oblast territory. It also has the Irkutsk complex (JSC Vostoksluda), which is in the Irkutskaya Oblast.

Although Russia is reportedly one of the largest producers of mica, earlier market research from 2006 notes that the “data of USGS on production of mica, including muscovite, in Russia are considerably underestimated”. The USGS report on mica also notes that Russia has “moderate” sheet mica reserves and “large” scrap and flake mica reserves.

The USGS annual mineral handbook mentions Russia as a producer of sheet mica.

There is a great discrepancy between USGS and BGS production figures. According to the BGS, given that there is no data published (presumably by the government), their figures are a “flat estimate”.

According to the OEC, the mica Russia exported in 2015 went mostly to the Ukraine (47 per cent), Belarus (15 per cent) and then Kazakhstan (5.8 per cent). That same year, Russia imported mica from India (18 per cent), Madagascar (16 per cent) and Finland (11 per cent). Given that production estimates are much higher than export figures, it can be assumed that most of the mica mined in Russia is for domestic manufacturing.

THE KEY PLAYERS
An engineering book on mining methods reports that underground mica mining in the Kola Peninsula started in 1933. More recently, the Kovdorslyuda mining company uses both open pit and underground mining techniques.

Other mica deposits in this same region of the Kola Peninsula are mined by GMK Pechenganikel, Olkon, Svedremont, Apati, Kovdorsky GOK, and Kovdorslyuda. The Kovdorslyuda mining company supplies mica products for the electronics, construction, rubber, paint and varnish industries.

MICA PRODUCTION IN RUSSIA (METRIC TONNES)

<table>
<thead>
<tr>
<th>Year</th>
<th>RUSSIA</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>9,000</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>100,000</td>
<td>100,000</td>
<td>9,000</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>100,000</td>
<td>100,000</td>
<td>9,000</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>100,000</td>
<td>9,000</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>100,000</td>
<td>9,000</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

MICA IMPORT/EXPORT IN RUSSIA (METRIC TONNES)

According to the OEC, the mica Russia exported in 2015 went mostly to the Ukraine (47 per cent), Belarus (15 per cent) and then Kazakhstan (5.8 per cent). That same year, Russia imported mica from India (18 per cent), Madagascar (16 per cent) and Finland (11 per cent). Given that production estimates are much higher than export figures, it can be assumed that most of the mica mined in Russia is for domestic manufacturing.

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR
A 2014 US DOL report notes that Russia has advanced minimally in efforts to eliminate the worst forms of child labour.

Child labour is rampant in Russia, and includes work on the street, agriculture and commercial sexual exploitation.

STOP CHILD LABOUR INITIATIVES
According to the DOL, the Russian Government committed to “assessing and improving working conditions in its 2014 Employment Plan.” The DOL considers child pornography as the most serious form of child labour in Russia. Various reports of child

270 Data collected for Russia was done so over the month of April and June in 2017.
275 Email to SOMO on 6 June 2017.
276 Data collected for Russia was done so over the month of April and June in 2017.
277 https://books.google.nl/books?id=N9Xpi6a5304C&pg=PA271&lpg=PA271&dq=russian+mica+production&source=bl&ots=AGIDobNi-b&sig=
279 https://books.google.nl/books?id=N9Xpi6a5304C&pg=PA271&lpg=PA271&dq=russian+mica+production&source=bl&ots=AGIDobNi-b&sig=
280 http://www.companies.com/mica_russia_info1536532.html
281 https://books.google.nl/books?id=N9Xpi6a5304C&pg=PA271&lpg=PA271&dq=russian+mica+production&source=bl&ots=AGIDobNi-b&sig=
283 https://books.google.nl/books?id=N9Xpi6a5304C&pg=PA271&lpg=PA271&dq=russian+mica+production&source=bl&ots=AGIDobNi-b&sig=
284 https://books.google.nl/books?id=N9Xpi6a5304C&pg=PA271&lpg=PA271&dq=russian+mica+production&source=bl&ots=AGIDobNi-b&sig=
labour exist, but nothing could be found linking children to mining in Russia. According to the Maplecroft Child Labour Index 2014, the risk of child labour in Russia has increased.

**UN COMMITTEE ON THE RIGHTS OF THE CHILD**

The CRC is concerned that oil and gas extracting companies have a negative impact on the lifestyle of certain indigenous groups, including their children. This is due to deforestation and environmental pollution. Moreover, coal extraction and the production of asbestos also negatively impact children’s health. Russia is urged to develop regulations to ensure business compliance with human rights, in particular children’s rights. Companies should carry out assessments and address the impacts of their activities on human rights.

There are also many children living and working on the streets in Russia, which makes them vulnerable to abuse and other forms of exploitation.

**ANALYSIS**

- Russia imports mica from India and Madagascar, both red flag countries.
- Russia production figures are likely to be underestimated, given that they do not appear to change from year to year, and that the figures of both the USGS and the BGS differ substantially.
- Russia is one of the countries producing sheet mica. However, in general Russia exports little of what it produces.
- Given Russia's vast mica deposits, it is a possibility that mica production could increase in the future.
- It is very difficult to find any information about child labour in Russia apart from child pornography, which is on the radar of both the DOL and the ILO.

**DETAILS OF MICA MINING**

In South Africa, the areas around the town called Mica in the eastern Transvaal and the Kenhardt andNamaqualand districts of the northwestern Cape Province have been the only localities in which the production of muscovite mica of any importance has taken place.

---

### MICA PRODUCTION IN SOUTH AFRICA (METRIC TONNES)

<table>
<thead>
<tr>
<th>Year</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>29</td>
<td>NA</td>
<td>29</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>383</td>
<td>NA</td>
<td>383</td>
<td>83</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>NA</td>
<td>309</td>
<td>309</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>NA</td>
<td>400</td>
<td>400</td>
</tr>
</tbody>
</table>

### MICA IMPORT/EXPORT IN SOUTH AFRICA (METRIC TONNES)

<table>
<thead>
<tr>
<th>Year</th>
<th>TMR EX</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>802</td>
<td>NA</td>
<td>721</td>
</tr>
<tr>
<td>2015</td>
<td>3,518</td>
<td>3,518</td>
<td>479</td>
<td>479</td>
</tr>
<tr>
<td>2014</td>
<td>12,923</td>
<td>12,923</td>
<td>862</td>
<td>861</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>7,002</td>
<td>(633)296</td>
<td>663</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>297</td>
<td>(425)</td>
<td>426</td>
</tr>
</tbody>
</table>

---

287 http://beta.globalmarch.org/worstformsreport/world/russian-federation.html

290 The data collected for South Africa was collected during the month of March and April 2017.
292 https://www.bgs.ac.uk/mineralsUK/statistics/wms.cfc?method=listResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreeToTsAndCs=agreed

---

16. SOUTH AFRICA
The open casting was followed by underground mining.297 In the northwestern Cape Province, the mineral belt is 15 to 20 km wide and 450 km long. Only mica is in one of the mines (Noumas No.1). In other mines, feldspar and other minerals are also mined alongside mica.298

Notice that South Africa’s mica exports are larger than the official production of mica in the country.

The export data does not give a clear picture: with the exception of Japan the exporting destinations change each year, and the export of mica exceeds production. For example, in 2016 South African exported mica to Lesotho (54 per cent) and Japan (25 per cent).298 In 2015, mica was mainly exported to Germany (16 per cent), Japan (24 per cent) and Tunisia (25 per cent).298 In 2014, it went to Hong Kong (which re-exported it to Japan), Japan directly and Mozambique.299

Why do export figures exceed production figures? For example, in 2014, the South African government reported that only 83 metric tonnes of mica were produced that year, while the UN Comtrade export figures note that almost 13,000 metric tonnes of mica were exported. This is a red flag, indicating the possible practice of illegal mining, probably in the form of artisanal and small-scale mining. Artisanal mining is associated with various socio-economic problems such as child labour, poor health, security issues, safety conditions and lack of health facilities.

THE KEY PLAYERS
According to a dated scientific journal (from 1986), ground mica was produced mainly by two companies. The Mica area (mined by Gelletich Mining Industries) contributed 92.3 per cent of the total mass, while the remainder was produced by the Steinkopf Reserve (mined by Garieb Minerals).297 No additional companies in the mica industry in South Africa could be identified.

HUMAN RIGHTS RISKS
Gelletich Mining Industries, which is responsible for much of the mica production in South Africa, was in the past involved in a land grabbing case that went to court, although this case was not related to mica.298

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR
The US DOL’s List of Goods Produced by Child Labour has not listed South Africa as one of the countries practicing child labour in any of their industries.300 The most recent list of UNICEF child labour statistics does not mention the occurrence of child labour in South Africa.293

However, the US DOL reports that children in South Africa are engaged in child labour, including in agriculture and domestic work. The DOL concludes that government social programs to address child labour do not match the scope of the problem, and barriers to access to education remain. In addition, the government does not collect data on child labour or make criminal enforcement data publicly available.293 The DOL does not mention mining as one of the activities that children are engaged in.

UN COMMITTEE ON THE RIGHTS OF THE CHILD
The CRC has concerns about the activities of businesses, in particular in the extractive industries, and the negative impacts they have on children’s rights. This is due to environmental pollution and the exploitation of child labour. The Committee recommends that South Africa establishes regulations for the business sector regarding human rights law and environmental standards. The Committee is concerned about the persistence of child labour, particularly in the agricultural sector, and the practice of the worst forms of child labour. The Committee urges South Africa to ensure effective implementation of laws and policies regarding child labour.294

ANALYSIS
• The fact that export figures are so much higher than production figures is a red flag, indicating the practice of illegal mining. This often occurs in the form of artisanal and small-scale mining.
• Artisanal mining is associated with various socio-economic problems, including child labour. Data on child labour in South Africa is not available; however the DOL reports the presence of child labour in the country. The involvement of children in mica mining in South Africa has not yet been investigated.
17. SPAIN

DETAILS OF MICA MINING

MICA PRODUCTION IN SPAIN (METRIC TONNES)

<table>
<thead>
<tr>
<th>Year</th>
<th>TMRR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>4,000</td>
<td>NA</td>
<td>4,049</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>4,049</td>
<td>NA</td>
<td>4,049</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>NA</td>
<td>3,462</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>NA</td>
<td>3,518</td>
<td>NA</td>
</tr>
</tbody>
</table>

MICA IMPORT/EXPORT IN SPAIN (METRIC TONNES)

<table>
<thead>
<tr>
<th>Year</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>4,048</td>
<td>NA</td>
<td>1,830</td>
</tr>
<tr>
<td>2015</td>
<td>3,557</td>
<td>3,557</td>
<td>1,839</td>
<td>1,839</td>
</tr>
<tr>
<td>2014</td>
<td>3,030</td>
<td>3,030</td>
<td>1,819</td>
<td>1,818</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>2,592</td>
<td>NA</td>
<td>1,538</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>3,820</td>
<td>NA</td>
<td>1,016</td>
</tr>
</tbody>
</table>

According to the OEC database, most of 2015’s mica export went to the UK (26 per cent), and subsequently to Italy (23 per cent), Mexico (14 per cent), France (10 per cent), and Brazil (6 per cent).

THE KEY PLAYERS
Andino Minerals SRL, which operates in Cordoba, and Arce Isidora Casildo, which operates in San Luis, produce mica in Spain. This would require further research if relevant.

HUMAN RIGHTS RISKS
Not found.

IMPACT ON CHILDREN
N/A

REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR
N/A

STOP CHILD LABOUR INITIATIVES
N/A

UN COMMITTEE ON THE RIGHTS OF THE CHILD
There are no comments on child rights issues or child labour in the private sector in Spain.307

---

306 https://www.bgs.ac.uk/mineralsuk/statistics/wms.cfc?method=lstResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=874&agreeToTsAndCs=agreed
18. SRI LANKA

DETAILS OF MICA MINING

The most common type of mica mined in Sri Lanka is phlogopite. Muscovite also occurs in certain areas (such as Kebitigollewa), but is rare in comparison. Other principal producers of phlogopite scrap, flake and powders are Russia, Canada, Madagascar and Finland. All other mica-producing countries produce mainly muscovite.

Mica mining in the central part of Sri Lanka (in Mailapitiya in the Kandy district) took place before 1948 during the British regime. Investigations carried out in the area showed the existence of economically interesting phlogopite mica mineralisation.

In the past, phlogopite mica was mined superficially. In the 1980s, small-scale mica mining took place in the Kandy district, in Naula and Madugoda as well as in Dutuwewa. Exports were confined to scrap grade mica.

One of the underground phlogopite mines is at Wariyapola outside of Matale. Phlogopite mica deposits occur at Kebithigollewa, Medawachchiya, Ruthnapura, Matale, Dambulla, Ambilipitiya, Kolonne, Dushathakandiyawa, Naula and Mailapitiya.

The most recent production amounts are estimates. Sri Lanka is a relatively small producer of mica. Note the production levels compared with the export levels.

It is a red flag that the production of mica in 2014 was estimated at 1,500 metric tonnes, while the export was almost twice as much. In 2015 the production and export level are almost the same, suggesting that either all mica mined was for export, or that the reported production figures do not reflect the real amount mined (given that mica is also used domestically). One source says that feldspar, mica and dolomite are used for domestic industries.

Sri Lankan mica is reportedly exported to Japan (65 per cent), China (15 per cent), Germany (13 per cent), Belgium-Luxembourg (3.3 per cent), South Korea (2.1 per cent) and India (1.9 per cent).

THE KEY PLAYERS

The following companies have been determined to be involved in the Sri Lankan mica mining industry. No further information could be found.

- Mica Lanka, Kandy, Sri Lanka
- Mirama Minerals (ilmenite, rutile, zircon, garnet, quartz and mica)
- Mica Minerals Mica Factory (phlogopite)
- Rinara, Moratuwa, Sri Lanka
- Global Mica & Granite (granite, mica, rare gems)
- New Hari Impex (phlogopite, mica)
- Mica Minerals Exports (mica scrap A and B, mica ore)
- Imexma Minerals Private Limited (dolomite, feldspar, mica, quartz, kaolin)
- The Industry Management Enterprises (Pvt) Ltd (mica, phlogopite, vein quartz)
- Matale Minerals Concern (phlogopite, block mica, scrap mica, mineral mica)
- Latha Enterprises (quartz, mica)

MICA PRODUCTION IN SRI LANKA (METRIC TONNES)

<table>
<thead>
<tr>
<th>SRI LANKA</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>1,500</td>
<td>1,500*</td>
<td>1,500</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>1,500</td>
<td>1,500*</td>
<td>1,500</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>1,493</td>
<td>1,493</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>1,260</td>
<td>1,260</td>
<td>NA</td>
</tr>
</tbody>
</table>

* Estimated, scrap mica.

MICA EXPORT/IMPORT IN SRI LANKA (METRIC TONNES)

<table>
<thead>
<tr>
<th>SRI LANKA</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>1,451</td>
<td>NA</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>1,544</td>
<td>1,544</td>
<td>197</td>
<td>197</td>
</tr>
<tr>
<td>2014</td>
<td>2,805</td>
<td>2,805</td>
<td>210</td>
<td>209</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>0</td>
<td>NA</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>2,386</td>
<td>NA</td>
<td>91</td>
</tr>
</tbody>
</table>

308 Data for Sri Lanka was collected in March and April 2017.
309 Phlogopite Mica Mineralization in the Central Part of Sri Lanka and Identify Suitable Areas for Mining. http://dl.lib.mrt.ac.lk/handle/123/11167
311 Phlogopite Mica Mineralization in the Central Part of Sri Lanka and Identify Suitable Areas for Mining. http://dl.lib.mrt.ac.lk/handle/123/11167
313 GEOLGY & MINERAL RESOURCES OF SRI LANKA, https://www.slideshare.net/indirankaralasingham/geology-mineral-resources-of-srilanka
316 http://www.listcompany.org/Mica_sri_lanka_info.html
317 http://miramaminerals.com
REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR

The US DoL’s List of Goods Produced by Child Labour has not listed Sri Lanka as a country practicing child labour in any of their industries. However, child labour is a known phenomenon in Sri Lanka, with the Sri Lanka Guardian reporting about 100,000 child workers in 2016. Mining is one of the sectors listed as using child labour. Reports note that gem mines, including sapphire and ruby mines, are notorious for the use of child labour. Children sometimes work as deep as 10-15 meters underground in unstable shafts. Children also reportedly work in firework and matchstick manufacturing, quarrying, fisheries, salt production and the construction sector among others.

The most recent official data can be found in the Child Activity Survey 2016, launched by the government’s Department of Census and Statistics in February of 2017. According to this survey, incidents of child labour have shown a significant decrease over the years. The total number of children in the age group between 5 and 17 years in Sri Lanka was 4.6 million in 2016. Only about 2.3 per cent of these children were found to be engaged in some kind of economic activity. Child labour was one percent of the total child population (43,714 children), and hazardous forms of child labour was as low as 0.9 percent (39,007 children).

STOP CHILD LABOUR INITIATIVES

No initiatives could be found calling for an end child labour in mining in Sri Lanka. In 2013, there was a mention of government initiatives to get children working in gem mines back to school. These programmes took place in locations with mines in the district of Ratnapur.

Child labour of any kind is illegal in Sri Lanka, and the country is a signatory to ILO Convention 182 on the Worst Forms of Child Labour and ILO Convention 138 on the Minimum Age for Admission to Employment.

UN COMMITTEE ON THE RIGHTS OF THE CHILD

The Committee is concerned about the possible negative impact on the safety, well-being and development of children in several business and industries, including tea plantations and textiles.

The Committee urges Sri Lanka to establish policies and regulatory frameworks for businesses to ensure that they respect child rights and safeguard their well-being.

The Committee is concerned that many children are working and not attending school. Moreover, the Committee regrets the absence of legislation to prohibit hazardous work for children.

ANALYSIS

• The fact that export figures in 2014 were higher than the official mining production figures is a red flag. This usually indicates the presence of illegal mining in the form of artisanal and small-scale mining. In the case of Sri Lanka, the presence of illegal mining has not been confirmed by research.

• Child labour is officially one percent of the total child population (43,714 children), and hazardous forms of child labour about 0.9 percent (39,007 children). It is known that children are working in gem mines; there are however no reports on child labour in mica mining. This needs further investigation.

19. SUDAN

DETAILS OF MICA MINING

In July 2011, the autonomous region of South Sudan became an independent country named the Republic of South Sudan. In this country profile we focus on Sudan, the northern part of the country.

The mining industry in Sudan is mostly driven by the extraction of fossil fuels, and petroleum makes a substantial contribution to the country’s economy. Between 2009 and 2012, cement and gold production...
became more important for the Sudanese economy. In recent years (2009-2013), the country also produced chromite, feldspar, fluoride, gyspum, kaolin, laterite, manganese ore, marble, mica, quartz, salt, silver, steel and talc.326

In the past, between 1968 and 1972, there was some commercial mining of mica in Ash Shamlasi Province. The Sudanese Mining Corporation produced about 1,000 tonnes of scrap mica in 1958, but output was thereafter reduced to 460 metric tonnes annually. The same source mentions the establishment of a mica project in El-Shriek in the River Nile State, with a planned production of 200 metric tonnes per day.327

South Sudan’s proven crude oil reserves328 are the sixth largest in Africa. However, the country is not a significant producer or consumer of minerals or mineral fuels. In 2014, only a fraction of the country had been geologically surveyed,329 and most exploration was for gold. Gold was produced by an estimated 60,000 artisanal miners in the Nakananuk mines in eastern South Sudan.330 Mica is not mentioned in this context.

Pre-2012 mica production figures are 378 metric tonnes for 2011, 10 metric tonnes for 2010 and 100 metric tonnes for 2009.331

In 2013, 100 per cent of Sudan’s mica export went to China. In 2011, 83 per cent went to China (the remaining 17 per cent was exported to Saudi Arabia). There is no data available for other years.332

**THE KEY PLAYERS**

The Sudanese Mining Corporation is 100 per cent owned by the Government of Sudan. The company operates the mines located at Sheriek, which have an annual capacity of 1,800 metric tonnes per year. This indicates that the annual capacity is much higher than the current export of mica, which was for example 500 metric tonnes in 2013.333

The Sheriek Mica Mines Company also known as the Sheriek Mica Project, can be contacted through its parent company, the Sudanese Mining Corporation.334 No further information about companies involved in mica mining in Sudan could be found.

**HUMAN RIGHTS RISKS**

Gold is produced by about 500,000 artisanal miners in Sudan, which means that artisanal miners account for most of the country’s gold production. In 2013, reported gold exports decreased in comparison to 2012 (46,133 kg in 2012). This reduction in exports can be partially attributed to civil unrest and pit collapses. In 2012, artisanal miners in the Jebel Amir district in the state of North Darfur produced about 14,000 kg of gold. In January and February 2013, hostilities between tribal warlords over control of the mines resulted in more than 400 deaths.

**IMPACT ON CHILDREN**

In April 2012, South Sudan and Sudan engaged in armed conflict in Abyei. In March 2017, the UN Secretary-General detailed the deep impact of armed conflict on children in the Sudanese states of Darfur, South Kordofan, Blue Nile and Abyei. The report describes how boys and girls continued to be victims of grave violations committed by all parties to the conflict, including killing and maiming, sexual violence, and attacks on schools and hospitals.335

**REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR**

One presentation about artisanal mining in Sudan mentions one million miners working in gold mining and extraction. The Sudan government reports that child labour in these mines has been reduced to less than 1 per cent; however, even if this is government report is true, this would still mean about 10,000 children working in gold mines.336 No reports could be found linking child labour to the Sudanese mica mines. The US DoL’s List of Goods Produced by Child Labour has listed Sudan as one of the countries practicing child labour in gold mining.337

The most recent list of UNICEF child labour statistics indicates that 35 per cent of Sudanese children are engaged in child labour.338

**STOP CHILD LABOUR INITIATIVES**

No initiatives to end child labour in mica mining in the country were found.

---


329. The Ministry of Petroleum and Mining had identified mineral resources that included copper, gold, iron ore, lead, manganese and zinc.


335. No observations about the private sector are available.

336. UN Committee on the Rights of the Child


---

339. No notes about the private sector are available. The CRC is concerned about widespread child labour in Sudan. Moreover, due to the lack of legislation, children are not prohibited from engaging in hazardous work.336

**ANALYSIS**

- Child labour is rampant in Sudan.
- There are no reports that clearly indicate the presence of artisanal mica mining in Sudan. However, there are abundant examples of children working in artisanal gold mines. The presence of artisanal mica mining and the possibility that children are working in these mines is realistic, and should be further investigated. The available statistics indicate that mica production increased between 2009 and 2013, even though Sudan is considered a small producer; the official figures could very well be less than what is actually produced, given the history of artisanal gold mining in the country.
- The armed conflicts in Sudan have had severe impacts on children and children’s rights.
There are few mineral resources left on the island of Taiwan. According to the USGS, recent outputs from the mining industry have had little effect on the country’s economy, which is mostly oriented towards exports, including electronic exports.

Taiwan’s mining consists predominantly of marble, limestone and serpentine, as well as dolomite, silicon, talc, Taiwan jade, rose stone, blue chalcedony and mica in more modest volumes. There has been a production increase in mica in recent years.

The Hsiang-Yang mica deposit is located in the northwest of Litao Village in Taitung County, Taiwan. It is the only mine in the country that produces powder mica, and the total reserve is estimated at 30 million tonnes.

### Details of Mica Mining

No trade data could be found in the Comtrade data-banks for Taiwan, so only the TMR data can be used. There is also no way of knowing where Taiwan imports its mica from.

Taiwan is a rather small exporter of mica in comparison with the other countries investigated. This suggests that the bulk of the mica mined in Taiwan is used domestically. Also, according to TMR the import of mica is fairly significant. This suggests that national production is used for local industries, and that national demand is quite possibly higher than national production.

Taiwan’s manufacturing sector is driven by the electronics industry and includes the manufacturing of computers, electronic components and telecommunications gadgets.

### The Key Players

- Tachien mine, Chingshuichi, Chochi, Hualien Co., Taiwan Province
- Yuantung mine, Silin, Pinglin, Hualien Co., Taiwan Province
- Tungao talc belt, Tungao (Tungyuchtsun) Nanao, Yilan Co. (Ilan Co) Taiwa Province
- Sunshine Mining Co.

No further information could be found concerning mica industry players in Taiwan.

### Human Rights Risks

According to the US Department of State, the principal human rights problems reported in Taiwan in 2016 were the exploitation of foreign workers (including foreign crew members on long-haul fishing vessels and household caregivers), domestic violence, and official corruption. The people most vulnerable to exploitation in Taiwan are domestic workers and caregivers, because they most often reside with their employers and are often women. A US Department of State report highlights that human trafficking remains a problem. Most trafficking victims are migrant workers from Indonesia, the Philippines, Thailand and Vietnam, and to a lesser extent individuals from China and Cambodia. Taiwanese authorities identified 278 victims.

---

### Mica Production in Taiwan (Metric Tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>TAIWAN</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
<th>NATIONAL GOV.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>5,020</td>
<td>9,000</td>
<td>8,267</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>9,000</td>
<td>9,000</td>
<td>5,016</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>8,931</td>
<td>8,931</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>6,844</td>
<td>6,844</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

### Taiwan Mica Import/Export from TMR (Metric Tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>TAIWAN EX/IM</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>393</td>
<td>NA</td>
<td>6,086</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2014</td>
<td>495</td>
<td>NA</td>
<td>5,056</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

---

341 Data collected for Taiwan was during the month of April 2017.
343 http://www.taipeitimes.com/News/editorials/archives/2017/03/31/2003667783
345 https://www.bgs.ac.uk/mineralsuk/statistics/wms.cfc?method=laResults&dataType=Production&commodity=98&dateFrom=2010&dateTo=2015&country=87&agreedToTsAndCs=agreed
of human trafficking in 2016 (197 sex trafficking victims and 81 forced labor victims), down from 292 in 2014.\textsuperscript{348}

Foxconn is the biggest Taiwanese company,\textsuperscript{349} and is known for labour abuse in its Chinese factories.\textsuperscript{350}

**REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR**

The US DOL’s List of Goods Produced by Child Labour has not listed Taiwan as one of the countries practising child labour in any of their industries.\textsuperscript{351}

The most recent list of UNICEF child labour statistics does not include Taiwan.\textsuperscript{352}

**STOP CHILD LABOUR INITIATIVES**

Child labour in mica mining is not reported, and there appear to be no initiatives in the country to end child labour in the mica mining industry.

**UN COMMITTEE ON THE RIGHTS OF THE CHILD**

There is no information available from the CRC, and no CRC recommendations are available.\textsuperscript{353}

**ANALYSIS**

- Taiwan is a small exporter of mica in the world market. The country imports more mica than it exports. It also produces mica that is used to manufacture products domestically; these products are most likely destined for export.
- Taiwan is a very large electronics producer, and the home of several electronics giants.
- Human rights violations are not mentioned in the context of mining or activities directly related to mining in Taiwan.
- Child labour is not reported in Taiwan.
- There is probably no connection to possible children’s rights violations related to mica mining in Taiwan from domestically-mined mica. However, Taiwan imports mica, and the source of these imports is not known due to the dearth of UN Comtrade data on Taiwan.


\textsuperscript{349} http://www.scmp.com/article/727143/foxconn-factories-are-labour-camps-report

\textsuperscript{350} https://www.theguardian.com/technology/2011/apr/30/apple-chinese-factory-workers-suicides-humiliation

\textsuperscript{351} https://www.dol.gov/ilab/reports/child-labor/list-of-goods/

\textsuperscript{352} UNICEF global databases, 2016, based on DHS, MICS and other nationally representative surveys.

21. UNITED STATES

DETAILS OF MICA MINING

A 1929 report from the US Ministry of the Interior, which was based on data collected over the 20 years prior to the publication, lists mica deposits across 28 US states, or in the following regions: the eastern Appalachian region from Alabama to New York and the New England states; northern Wisconsin, Michigan and Minnesota; the region including corners of Minnesota and Iowa and part of South Dakota; southeastern Missouri; the Black Hills of South Dakota; the Rocky Mountain region from New Mexico to Montana; and many smaller and more or less isolated areas in nearly all of the western states from Texas to California and up to Washington.354 However, according to the USGS, scrap and flake mica production sites or mines are predominantly located in Georgia, North Carolina, South Dakota and Virginia.355 The report also notes that in 2015, the largest quantity of mica was produced in Georgia.356 According to the USGS, scrap mica was recovered from mica and sericite schist, and as a byproduct of feldspar, industrial sand beneficiation and kaolin. “Limited resources of sheet mica are available in the United States, and domestic resources are uneconomic because of the high cost of hand labour required to mine and process sheet mica from pegmatites.”357

A minor amount of sheet mica is mined in North Carolina, but according to the USGS, imports are necessary to meet the demand for sheet mica in the US.358 “Domestic production and consumption of scrap and flake mica were estimated to have decreased in 2015. Apparent consumption of scrap and flake mica decreased slightly because the 15% decrease in production was offset by the estimated 7% increase in imports. Apparent consumption of sheet mica increased slightly in 2015. No environmental concerns are associated with the manufacture and use of mica products. Future supplies of mica for U.S. consumption were expected to come increasingly from imports, primarily from Brazil, Canada, China, and India.”359 According to the USGS.

According to the 2016 USGS, mica can be used to replace other minerals. For example titanium dioxide coated mica flakes and fish-scale extracts can be used as substitutes in pigments,360 and group mica can be used as a filler material and a substitute for diatomite.361 Given that this mining is taking place in the US, operations are assumed to be industrial, legal and run by businesses (even if the businesses are family-owned).

THE KEY PLAYERS

Given that the country is so big, it is not possible to provide an overview of the biggest US players. However the US Bureau of Mines has a records department with information concerning mica production in section 70.3.362

The Asheville-Schoonmaker Mica Company,363 which is mentioned in the TMR report, merged with Reliance Mica in 2014. The firm is based in Virginia, and operates as a supplier of mica and mica plate products that are used as decorative sheets and for dielectric and/or high thermal resistance.

“Eight companies in the United States produced scrap and flake mica during 2015. The same companies operated nine grinding plants, six dry ground and three wet ground facilities. The three wet grinders were BASF Corp. Hartwell, GA; Georgia Industrial Minerals, Inc. Buford, GA; and the Asheville-Schoonmaker Mica Co. Three dry grinders were Mica Plate Company, Inc. Asheville, NC; Adair Plate Mica, Inc. Tega Cay, SC; and Omega Industrial Minerals Co., Inc. Mocksville, NC.”364

A small amount of sheet mica is produced in the US.365 “Domestic production and consumption of scrap and flake mica were estimated to have decreased in 2015. Apparent consumption of scrap and flake mica decreased slightly because the 15% decrease in production was offset by the estimated 7% increase in imports. Apparent consumption of sheet mica increased slightly in 2015. No environmental concerns are associated with the manufacture and use of mica products. Future supplies of mica for U.S. consumption were expected to come increasingly from imports, primarily from Brazil, Canada, China, and India.”366 According to the USGS.

According to the USGS for 2016, the US imported 39 per cent of its natural mica (scrap and flake) from Canada, China, Finland and India.367

MICA PRODUCTION IN THE US (METRIC TONNES)

<table>
<thead>
<tr>
<th>Year</th>
<th>USA</th>
<th>TMR</th>
<th>USGS</th>
<th>BGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>2015</td>
<td>32,600</td>
<td>41,500</td>
<td>41,500</td>
<td>41,500</td>
</tr>
<tr>
<td>2014</td>
<td>46,000</td>
<td>41,500</td>
<td>46,000</td>
<td>46,000</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>50,000</td>
<td>48,100</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>47,500</td>
<td>47,500</td>
<td></td>
</tr>
</tbody>
</table>

MICA IMPORT/EXPORT IN THE US (METRIC TONNES)

<table>
<thead>
<tr>
<th>Year</th>
<th>USA EX/IM</th>
<th>TMR EXPORT</th>
<th>UN EXPORT</th>
<th>TMR IMPORT</th>
<th>UN IMPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>NA</td>
<td>6,459</td>
<td>NA</td>
<td>31,572</td>
<td>31,572</td>
</tr>
<tr>
<td>2015</td>
<td>7,380</td>
<td>7,676</td>
<td>33,200</td>
<td>33,318</td>
<td>33,318</td>
</tr>
<tr>
<td>2014</td>
<td>8,727</td>
<td>8,726</td>
<td>33,543</td>
<td>33,543</td>
<td>33,543</td>
</tr>
<tr>
<td>2013</td>
<td>NA</td>
<td>6,705</td>
<td>NA</td>
<td>30,936</td>
<td>30,936</td>
</tr>
<tr>
<td>2012</td>
<td>NA</td>
<td>6,506</td>
<td>NA</td>
<td>27,393</td>
<td>27,393</td>
</tr>
</tbody>
</table>

354 Data collected for the USA was done so during the months of March and June 2017.
367 https://www.archives.gov/research/guide-fed-records/groups/070.html
368 https://www.archives.gov/research/guide-fed-records/groups/070.html
369 https://www.fws.gov/columbia/animals/conservation__habitat__restoration/about_the_columbia_river.html
Deepstep, GA; and Kings Mountain Mining, Kings Mountain, NC, a division of Imerys SA. U.S. Gypsum, Spruce Pine, NC also dry grinds mica, mainly for its internal use as a key ingredient in gypsum wallboard joint compound.\(^3\)

**HUMAN RIGHTS RISKS**

There is no evidence of possible human rights violation risks, and no detailed information concerning environmental risks.

**IMPACT ON CHILDREN**

There was nothing found on the possible impact of human rights violations on children, or on children’s rights.

**REPORTED CHILDREN’S RIGHTS VIOLATIONS AND CHILD LABOUR**

There is no evidence of the presence of child labour in mica mining in the country.

**STOP CHILD LABOUR INITIATIVES**

N/A

**UN COMMITTEE ON THE RIGHTS OF THE CHILD**

The US has not ratified the Convention on the Rights of the Child.